

The National Locksmith®

CODES
VOLVO, DF2001-4000
page 120

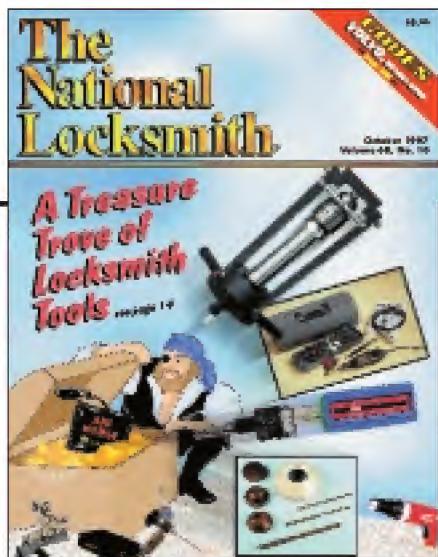
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October 1997
Volume 68, No. 10

**A Treasure
Trove of
Locksmith
Tools** *see page 14*



On The Cover...



Your treasure chest of locksmith tools is not complete without the inclusion of such products as the Strong Arm MiniRig Pro Kit, Dremel MultiPro Kit, Keedex Micro V.A.T.S. Decoder, or A-1's Modular Drill Jig Set, to name just a few.

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The National Locksmith® ISSN #0364-3719 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107. Periodicals postage paid at Bartlett, Illinois 60107 and additional mailing offices USPS 040110. Subscriptions \$39.00 per year in the USA; \$52.00 per year in Canada; \$65.00 in all other countries. Single copies \$5.00 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107. ©1997 by the National Publishing Company. All rights reserved. Printed in the U.S.A.



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COMMENTARY



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ALOA. Those four letters mean a lot to this industry. Some people want to see a strong ALOA, and, face it, others have a less charitable view of the Associated Locksmiths of America. I am one of those who believes we need a strong ALOA to help represent our industry. For better or worse, whatever your view, they are the only nationally recognized locksmith association. And I think that that gives them wonderful opportunity to help further our causes.

Last year, in this magazine we wrote some hard words about the 1996 ALOA conference. They were accurate, but, perhaps, harsh nonetheless.

This year, however, we can say nicer words about the 1997 convention which took place in Reno. ALOA's theme for their show has been Under Construction. This means they have recognized that they needed to take substantial action to reinforce the show.

I'm happy to tell you that it's working. The 1997 show in Reno was well attended, with locksmiths coming from various parts of the country from what I could see. So I wanted to take my hat off to the organization's officers and staff, and say that this year was a job well done. Let's look forward to more and better conventions in the future. Let's all meet up next year in Nashville.

On another note, I often hear locksmiths complaining about the yellow pages. Yes, the yellow pages are probably an important component of many locksmith companies' marketing plan. But for too many businesses, I suspect that the YP may be their only marketing plan.

The YP are almost sure to bring you calls from the price shoppers. You know...the ones who call you, ask the price, then hang up so they can call the next listing. Having spoken to many locksmiths over the years, you won't believe what many of them site as their preferred method for gaining new customers. You might not believe it because it's so simple.

No, it's not radio advertising, or newspapers, or their truck signage. The method that works for many of the successful shops is simply meeting

It's time to fertilize!

new people and talking to them, plus leaving them with a business card.

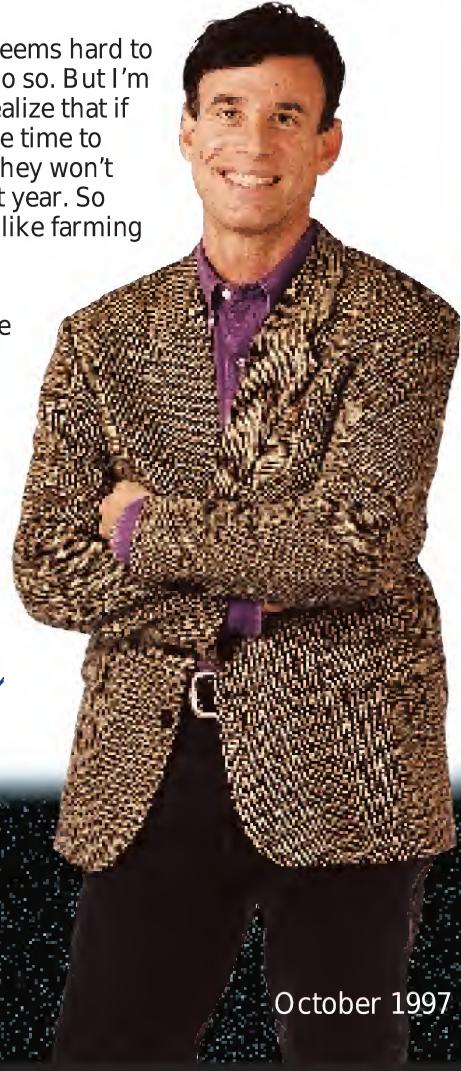
Sounds incredibly simple doesn't it? But just imagine that you are a plant maintenance supervisor, responsible for a couple of hundred doors at a factory. Or you're a property manager at an apartment complex. What do you know about locks? Probably just enough to spray WD-40 in a sticky lock, but if that doesn't work, you're stuck.

When you have special security needs such as access control or exit devices, you may have no clue. Now, you probably do have a locksmith you've used in the past. But I bet you only see that guy when you have a problem.

I suggest that you start to think about who you would like as a new client. And take the time to drop by and shake a hand or two, and then leave behind your business card. I can almost guarantee you that if you apply this idea on a regular basis, you will win new customers.

Sometimes it seems hard to justify the time to do so. But I'm sure the farmers realize that if they don't invest the time to fertilize the fields, they won't produce much next year. So think of marketing like farming in a way.

Even the strong customers you have now, someday may have to be plowed under after a drought. Get on your tractor, and fertilize with some handshakes and some business cards.



Marc Goldberg

Marc Goldberg
Publisher

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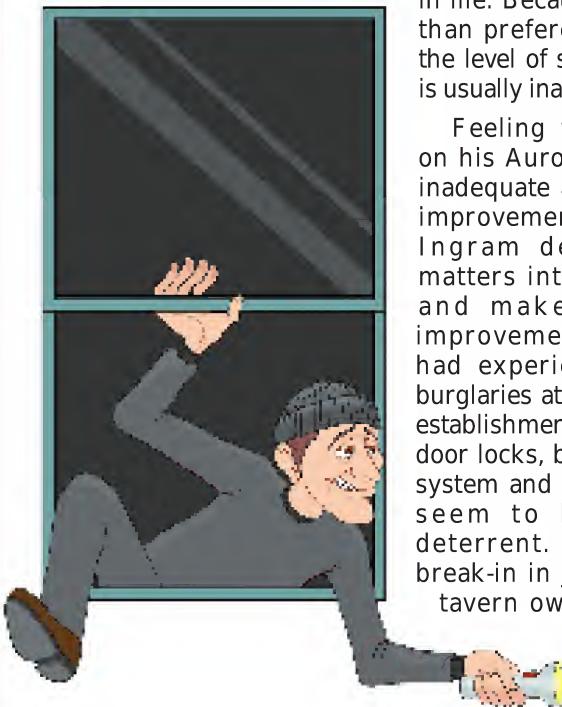
Mango's Message

As locksmiths, you deal with security issues on a daily basis. You also see the amount of damage and loss that can occur when there is a breach in security. But have you ever asked yourself to what length you would go to protect your own belongings? Just how far would you go to protect your property or yourself? What measures do you take to assure that you're safe and secure?

Do you have high-security locks on your store as well as your residence? Do you have a fire safe to protect those precious documents? Do you have a money chest to secure your earnings as well as the family jewels? Do you have a data safe to protect irreplaceable electronic files? Do you have a gun safe to safeguard any firearms? Do you have door viewers on all your exterior doors? Do you have an alarm system with a cellular backup? Do you have surveillance cameras and time-lapsed recorders? Are all your windows secure? Are all exterior doors and frames reinforced? Do you carry some form of personal protection at all times? Is your car and service vehicle impervious to theft?

Even as security professionals, I would venture to say that the level of security many of you have is inadequate. Far too often the level and type of security a person has is not determined by personal preference, but by money. Money is the determining factor in almost everything we do and have in life. Because money, rather than preference, determines the level of security one has, it is usually inadequate.

Feeling that the security on his Aurora, IL tavern was inadequate and needed some improvements, owner Jesse Ingram decided to take matters into his own hands and make the security improvements himself. He had experienced a rash of burglaries at his neighborhood establishment and the standard door locks, burglar bars, alarm system and local police didn't seem to be much of a deterrent. After the third break-in in just 25 days, this tavern owner



Extreme Measures

had suffered enough loss and decided that drastic measures needed to be taken to thwart future attacks.

Consumed with anger and frustration, Ingram concocted a deterrent that was sure to have an undeniably electrifying affect. He was through calling the police and filling out useless police reports. He was through replacing broken windows and doors. He was going to put a stop to the unwelcome intrusions once-and-for-all.

The materials needed to assemble his security device was actually quite simplistic and inexpensive. It consisted of some warning signs, a steel plate, wire, and 220 volts of electricity.

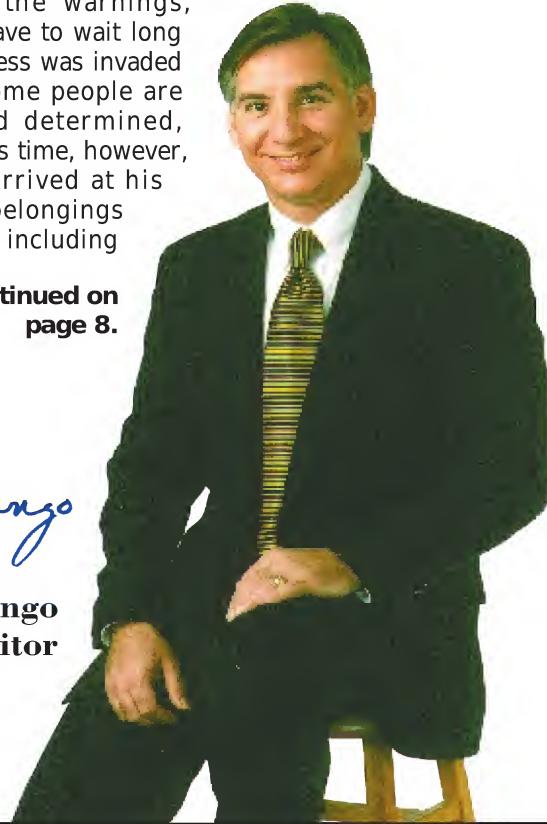
At each exterior window a steel plate was positioned. Once in place, wires were attached to the plate and then plugged into 220 volts of electricity. With his home-made security system strategically positioned, a number of signs were then placed around the premises warning would-be thieves that the establishment was protected by high-voltage.

Despite all the warnings, Ingram didn't have to wait long before his business was invaded once again. (Some people are just bound and determined, aren't they?) This time, however, when Ingram arrived at his tavern, all his belongings were still there, including

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Greg Mango

Greg Mango
Editor



Mango's Message

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the individual that invaded his store. You see, when the perpetrator of this crime broke the window and proceeded to climb through, he landed on the steel plate that was carrying 220 volts of electricity and was instantly electrocuted like a fly in a bug zapper. He was pronounced dead at the scene of the crime.

Peeled off the window sill like fried bacon draped over a stick, paramedics placed the perpetrator in a body bag and drove him to the city morgue. Ironically, just outside the window this individual tried to slither through, was a sign that read: "WARNING" These Premises Protected By A High-Voltage Security Device.



You would think that by now Ingram's troubles had been resolved. However, little did he know they had just begun. Even though Ingram was successful in protecting his property, he was not successful in protecting himself. He was now facing charges of manslaughter.

Was Ingram, who posted warning signs indicating the presence of a high-voltage device, within his rights to protect his business property? Was it his intention to kill an intruder? Or did he just want to deter an intruder? Did he cross the line beyond self-defense to self-offense?

Whether a person can use deadly force to protect property is the subject of much debate. Under established principles of English common law, a person is not allowed to set a trap that would injure, maim or kill an intruder. If you are standing inside your house with a loaded shotgun, you are entitled to defend your property and your life with deadly force. However, according to English common law, you can't set a trap such as spring guns or other kinds of fire-arms, or in this case, electrical traps, designed to injure, maim or kill an intruder in the absence of your presence.

As with any law, the intent, purpose and objective of the law is subject to interpretation. For example, when a Florida shopkeeper set a similar electrical booby trap that killed an intruder, the shopkeeper was initially arrested and charged with manslaughter. However, a grand jury refused to indict him, and the charges were dropped. Yet in Louisiana, a man was convicted of manslaughter and sentenced to seven years in prison for setting up a spring gun at the back door of his house that killed a neighbor.

Obviously the level of security that Ingram needed at his tavern was greater than what he had. The probable cost of providing adequate security, however, would most likely have been much greater than what he could or would pay for. This is the dilemma in the security business, finding a way to provide adequate security at a price the customer can afford. Often the two criteria are never met.

Not everyone can afford the level of security they really need, and in most instances, the ones needing the most security can afford the least.

Assessing the level and type of security someone needs requires that a number of factors be considered:

1. What needs to be protected? Property, money, documents, firearms, jewelry or a person themselves.
2. What does it need protection from? Burglary, fire, vandalism, terrorism, violence, espionage, natural elements, etc.
3. What is the real threat as opposed to the perceived threat?
4. What level of security is needed or desired?
5. What measures can be taken to secure the desired object or individual?
6. What alternative methods may be used?
7. Can the customer afford the level of security he or she needs, requires or requests?

The term security itself is somewhat ambiguous. It can, and does, mean something different for everybody. For example, what I may personally consider a security concern is not the same as what the tavern owner, Ingram, considered a security concern. There is not one level or type of security that is good, or will work, for all. Additional factors, such as city, state, neighborhood, schools, race, creed, color, sex, age, job, education and personal wealth, all need to be considered when designing an adequate security system for all or one. We are all subject to a variety of security issues and concerns, and no two are alike.

Obviously the measures Ingram took to protect his property was a bit extreme. It was undoubtedly effective, but still a bit extreme. Was there an alternative method in which he could have protected his property besides electrifying the window sills? Yes. But what if he truly could not afford the level of security needed? What does one do then? Like many before him, when there seems to be no alternative, people take matters into their own hands, often resulting in an unfortunate tragedy.

So, just how far would you go to protect yourself and your personal belongings? Would you kill someone?

If your security systems are inadequate, you just may have to. **TNL**



October 1997

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Apprentice Programs Available

In your June issue, C.H. Martin in South Carolina was frustrated that he could not get a job in his local area as a locksmith and had experienced, in some cases, "attitude" by the established business owners.

As Chairman of the Georgia Chapter of ALOA, and as an owner of a lock shop, I have some suggestions that may help him and others wanting to get a job. First, join ALOA and your state chapter. Attend all the meetings and classes that you can. You will not only learn, but will get to know many of the folks who make decisions regarding employment. If you are willing to move, you could have a job soon.

I know of several possibilities now in North Carolina and Georgia. I know because I participate in my chapter. Keep subscribing to *The National Locksmith* and any other trade magazines that you can afford. They are packed with useful

information that you can use in job interviews and further your education.

Don't feel inferior about taking a mail order course. Many locksmiths started the same way. In the absence of an apprenticeship with a locksmith, it is a good way to start your career. Stay in touch with locksmith suppliers. They have a lot of information that may lead to a good job. Most importantly, I suspect you have the most important element of success already. Desire. Do not give up! Your chance will come.

Of the 11 locksmiths we have in our company, we have two apprentice locksmiths working. It is expensive and time consuming to train newcomers, but I view the process as an investment in the future of our company and industry. So, Mr. Martin, there are locksmith shops that are interested and committed to apprentice programs. You just have to find one. Good fortune to you and all the aspiring locksmiths.

*Michael Robinson, Chairman
Georgia Chapter ALOA*

Who Not To Call When Your Safe Is Locked-Up

As a distributor we sold a Mancini depository to one of our dealers. He then shipped it to a motel in the Georgia area. After a couple of months of working fine, something went wrong with the safe and the manager of the motel could not get it open. This happened on a Sunday so the motel manager called the local locksmith for service. The locksmith showed up and worked on the safe Sunday and Monday and finally got the safe open on Monday evening.



On Monday morning we received a call from our dealer. He told us about the safe being locked up and wanted to know if we could call the locksmith and tell him how to open the safe. We tried several times to reach him on Monday, but never could. We had left several messages, but never heard back from him. By the time we did hear something the safe was finally opened.

The customer called us and said that the locksmith told her the door could not be repaired and that the factory owed her a new door. The locksmith told her that the internal relocker had been set off and that was why the safe would not open. Mike almost laughed at her. He explained to her that the factory was not responsible for the locksmith destroying the door on her safe. He told her that if they would send the safe to us we would do our best to fix the safe or if the safe couldn't be fixed we would work out a trade.

If the locksmith had made one phone call to us he would have known that the relocker in this safe was not

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

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covered by hard plate. With this knowledge the locksmith should have been able to open this safe with only one hole. But, the locksmith had no knowledge about this safe so he ended up butchering the safe to get it open and then tried to explain it away by saying that the internal relocker set off.

We eventually got the safe back to our warehouse to do the repair. When we received the safe the local locksmith had already begun the repair on the safe. His repair attempt caused us a lot more work on our end. It was obvious to us that he had very little, if any, knowledge about safes.



By the enclosed pictures you can see that the safe door was repairable. This is just another classic example of who not to call to open your safe. You can't really blame the customer for calling a locksmith with a large Yellow Page ad. They did not know that the locksmith was not a safe technician. Most customers with safe problems think that locksmiths and safe technicians are one and the same. Although sometimes it is true, it is not always. Apparently you can't leave it up to the locksmith to tell you that he is not a safe technician. You have to ask.

We specialize in safes. Occasionally we get calls to open locked cars or to do keylock work. Those jobs we refer over to another locksmith that specializes in that.

In closing, it is our opinion that

locksmiths should use better judgment when taking on a job that they are not qualified to do. Butchering a safe makes both locksmiths and safe technicians look bad.

*Mike Griffin
South Carolina*

Smart Card Spells End Of The Road For Car Keys

Motorists could soon be using credit-card-size plastic to unlock and start their cars. A German firm has developed a "passive keyless system" which it said could be fitted in cars on sale this year in Europe. Several British car manufacturers have held talks with Megamos, the German company that developed the system, but a spokesman said he expected Mercedes would be the first to use it.

The card contains a record of the driver's data, including weight, seat setting, headrest, rear-view mirror and steering column position and favorite radio station. This is on a microchip embedded in the card. As the driver approaches the car, a radio transmitter in the smart card sends a signal to the car to unlock the door. The signal is encrypted to ensure that thieves cannot intercept it and use it.

Unlike the present systems, where the driver presses a button on a key fob, the smart card system is passive — the car detects the smart card automatically. The car has neither a noticeable lock nor a handle on the door. A small and fast servo motor inside the door pushes the door ajar so the driver can pull it open. As soon as the driver sits behind the wheel, the card will trigger sensors which switch off an immobilization system and allow the car to fire up at the touch of a dashboard button. A separate security system measures the weight of the driver to check that an authorized person is holding the

card. If a child was in the seat it would not start the engine.

The firm has also been talking to British, American, Scandinavian and German car makers, including Aston Martin, Jaguar, Vauxhall and Porsche. It is reported that in 10 years all cars will come with smart cards in place of keys.

*Robert Uhlig
United Kingdom*

Lending a Helping Hand

Just finished reading about the Flood Relief Fund in the July Mango's Message and am sending a donation to the cause. I was wondering however, why not post the information about this relief fund on the America Online (AOL) Locksmith's Message Board. It can be reached through the AOL Keyword: Locks. Or you can reach the site at the following web page address: aol://4344:690.locks.6172978.5385291 11 (Locks & Locksmiths)

Or, another AOL path would be to go to Keyword: Your Business. When the "Your Business" screen comes up go to "Industries & Niches." When the "Industry & Niches" screen comes up scroll down to "Locks & Locksmiths." There you will find a "Message Board" plus a number of other topics to discover.

I would post it myself, but thought it would be better if it came from you because although I'm known to many, EVERYONE knows you. Yes they do.

*Ginger
New York*

Editors Note: For those of you who are connected to America Online or have access to the Internet, the Locks & Locksmiths Web page may be of interest to you when looking for industry information or want to correspond with a fellow locksmith Online junkie.

TNL



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COVER
STORY!

A

TREASURE-TROVE OF LOCKSMITH TOOLS!

Automotive Tools

KEEDEX Micro V.A.T.S. Interrogator

Do you remember when General Motors first introduced V.A.T.S.? It was in 1986 on the Chevrolet Corvette. At that time, the introduction of V.A.T.S., and the thought of having to service such a system was a very scary thought for most locksmiths. This new technology that had never been seen before in an American automobile, was a mystery to most, and at first seemed almost impossible to service. Many didn't.

V.A.T.S. was developed to deter and reduce the number of car thefts of Corvette vehicles. A huge number of Corvettes and other GM products were being stolen every year and the insurance companies started applying pressure to General Motors to develop a system that would reduce their losses. Since that time, V.A.T.S. is now standard equipment on most General Motor vehicles and has proven to be a huge success. There has been a substantial reduction in vehicle thefts of General Motor vehicles since the introduction of V.A.T.S.

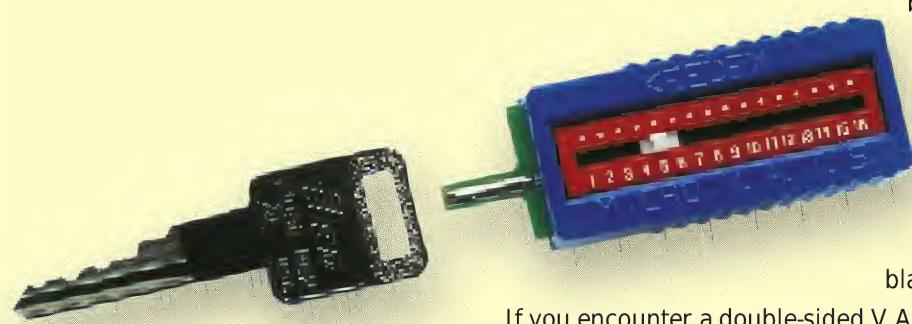
Since the inception of V.A.T.S. there have been a number of "interrogating" devices introduced to the market place to determine the resistance value of each system. In the beginning most functioned basically the same way. The electrical connecting harness under the dash needed to be located and disconnected. This sometimes took some doing. Then the system interrogator was attached to the electrical harness and the interrogation would begin, sometimes taking as much as an hour to interrogate. While functional, it was a bit of a job to do.

Over the years, many versions of V.A.T.S. interrogators have been developed. One of the simplest and least expensive introduction to date was manufactured and developed by Keedex. It's called the K-V.A.T.S. Micro V.A.T.S. Interrogator. This device eliminated the need to locate and disconnect the electrical harness under the dash. It is simple, light weight, and can fit in your pocket.

The Keedex Micro V.A.T.S. Interrogator is the most affordable and easiest to use interrogator available. The device does not require special adapter keys or disconnecting any wires. The highly effective tool is compact enough to take anywhere.

To use the K-V.A.T.S. Micro V.A.T.S. Interrogator, first cut a functional mechanical key for the ignition on a standard key blank. Then insert the key into the ignition and slide the Micro V.A.T.S. unit over the head of the key. Assure that the interrogator is properly seated and positioned. The probes of the Interrogator should now be under the clips of the adapter.

Once the key blank and Micro V.A.T.S. Interrogator is positioned in the ignition, set the selector switch on the device to the first position and rotate the key. The selector switch on the Micro V.A.T.S. is to determine which of the fifteen values is the correct one that will start the engine. If that does not start the vehicle, turn the ignition off, set the selector switch to the second position and repeat the procedure until the vehicle starts. It is necessary to wait the required amount of reset time (approximately 3-1/2 - 4 minutes) between attempts.



The numbers on the Micro V.A.T.S. correspond to the fifteen values of the V.A.T.S. key blanks. Once the vehicle starts, the number that the Micro V.A.T.S. is set on will be the resistance value needed to operate the vehicle. With the proper V.A.T.S. key blank, duplicate the cuts from the mechanical key used to operate the ignition on the V.A.T.S. key blank and the job is complete.

If you encounter a double-sided V.A.T.S. system, Keedex also supplies a double-sided adapter for the Micro V.A.T.S. Interrogator. It's a simple matter of opening the Micro V.A.T.S., removing the adapter and replacing it with the double-sided adapter.

Also included with the Micro V.A.T.S. Interrogator is a chart that allows you to use an OHM meter as a key identifier.

This is by far the easiest, and smallest interrogator available.



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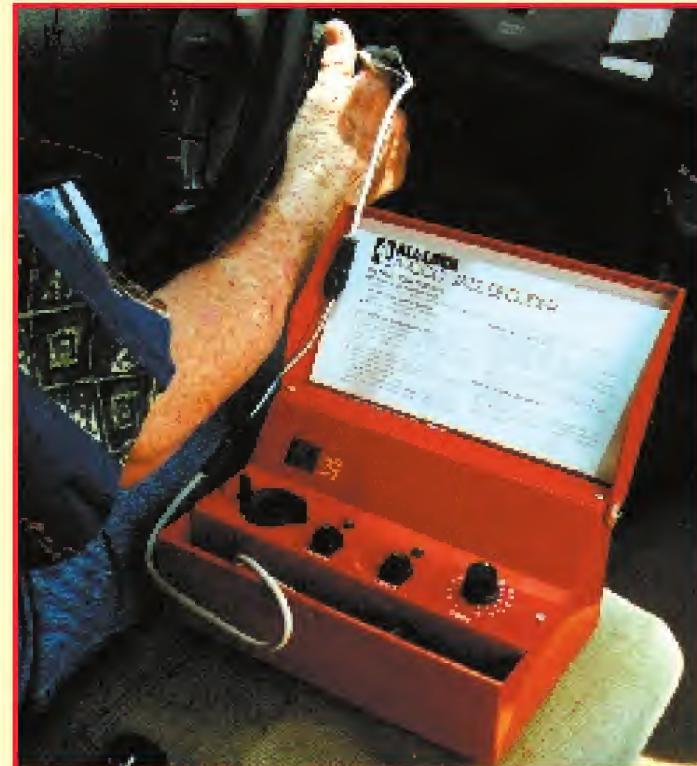
Continued from page 14

AABLE Ford 8-Cut Removal Tool

AABLE Locksmiths has designed a tool kit to remove Ford 8-cut ignitions. Ignitions including the Mercury Villager and Nissan Quest can be turned to the on position in less than 5 minutes for fast removal. With no damage to the lock, just fit the key to the coded wafers and you have one key to all the locks. The sidebar breaker tool can be used to turn the ignition to the on position in 60 seconds with no damage to the wafers.

**ALL-LOCK LT6273 VATS Decoder**

Compact and at roughly half the cost of a full decoder, the All-Lock LT6273 reads the VATS value of existing VATS keys, allowing for quick, easy and concise key duplication. The durable LT6273 is made of solid state construction in a finely finished metal container. A large, clear LED display makes reading the key easy. Operates on one 9V alkaline battery.

**CURTIS No. 15
Code Cutter**

The Curtis No. 15 code cutter is a fast, easy and complete hand held automotive code cutter. It features a patented design that allows the user to pre-set all cuts in a series and then quickly cut the key reducing the possibility of errors.



Also available is a newly designed smaller carrying case, which holds two cutters and all the cam-sets and carriages you will need.

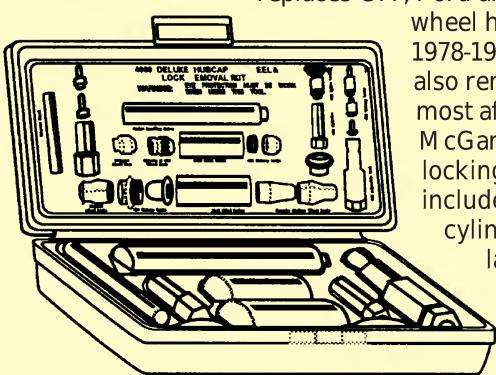
**HPC
Introduces
the Air
Wedge**

HPC's new Air Wedge (AW-99) is unlike anything else on the market. The Air Wedge slides between the vehicle door and the weather stripping on the door frame. A pump is squeezed which inflates the Air Wedge separating the vehicle door from the frame. This provides more than ample room to insert a car opening tool. The Air Wedge is made of a sturdy vinyl and equipped with a release valve.



LOCK TECHNOLOGIES Wheel Lock Removal Kit

The Model 4000 Deluxe Hubcap and Wheel Lock Removal Kit from Lock Technology safely removes and replaces GM, Ford and Chrysler wire wheel hubcap locks on 1978-1997 models. The kit also removes factory and most after market McGard mag wheel locking nut locks. The kit includes a Chrysler cylinder to work on large diameter Chrysler locks. Kit comes in a custom case with instructions.



PRO-LOK Auto Tools

PRO-LOCK is well known for providing specialized professional-quality tools for the locksmith. From unique hand tools to highly detailed automotive lock service manuals, products are designed with the locksmith in mind. Face Cap Removal Pliers, the Cap Clincher, the Clip-Zip door panel tool or the Unlocker (a special pick) for steering wheel locking bars, they've got it.



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STRATTEC PASS-Key Deluxe Kit

Each kit includes everything you need for both single—and double-sided PASS-Keys—in one convenient, easy-to-use kit. It includes a carrying case, Key Probe IV, five single-sided Interrogator keys, five double-sided Interrogator keys, 15 single-sided PASS-Keys and 14 double-sided PASS-Keys.

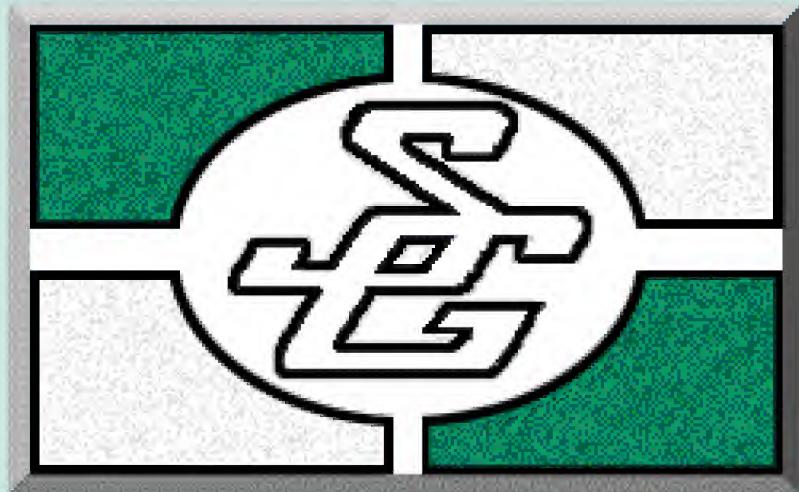
**TECH-TRAIN VATS Interrogator/Reader**

Tech-Train's five-year warranted VATS Interrogator/ Reader reads both single and double-sided VATS keys. When the unit is not being used as an interrogator, leads can be removed making it a hand-held VATS key reader. The reader uses solid-state circuitry to give a positive reading of the key value with no meters to

read. The unit can interrogate through the keyway or plugged in below the dash.



TNL



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A TREASURE-TROVE OF LOCKSMITH TOOLS!

Bypass Tools

A-1 Modular Drill Jig Set

We've all been there. We receive a call to open a locked door, only to arrive and find that we can't pick it open. Try as we may, our attempts fail. So, what do you do now? Well, short of kicking in the door, you don't have much choice but to drill the lock.

To aid in this task, A1 offers an innovative, safer way to drill out cylinders without the high risk of injury to fingers and hands. It's a simple device that aids in precise sheer line drilling.

The Modular Drill Jig Set (#DJ1) includes a safety handle, three steel jigs and three bits. Each jig snaps into the cone shaped safety handle to provide proper alignment for many popular cylinders.

There is a jig for drilling IC core locks, recessed tulip design knobs and for flat faced cylinders. Each jig also includes a drill bit of a specific diameter for its given jig. Each jig features a double prong base that is inserted into the keyway of the lock assuring proper positioning. A-1 recommends that jigs are for use with A1's Safety Handle only. Do not attempt to use without this handle and, as always, wear your safety glasses.

To use, choose the appropriate drill jig and snap it into the A1 safety handle. The safety handle is a circular cup which fits over the lock and holds the jig. The safety handle is designed to assure that your hand is clear of the drilling jig for safety.

When using the jigs it is recommended that they be periodically cleaned and of all chips and apply a small amount of silicone grease to the O ring.

I/C Jig & Bit

For interchangeable core mortise cylinder and tulip knob. Uses #39 drill bit.

This drill jig allows removal of the core assembly from the lock housing without picking. Although the core itself will be destroyed, the pin stacks will remain intact allowing disassembly for decoding.

Stop drilling when you feel the drill breaks through the face of the core. Once the hole has been drilled, remove the jig from the core and run a #6 self tapping screw (supplied) into the hole. With an appropriate tool (small crowbar, claw hammer, etc.) placed under the head of the screw and pry the face from the core. The lock may then be disassembled for decoding.

Note: When drilling it is best to feed with a "Woodpecker" action: that is, feed in 1/8" to 1/4" then withdraw to bring the chips out of the hole to prevent binding.

RT Jig & Bit

For recessed tulip design. Does not damage knob. Uses 1/8" drill bit.

Keep drill perpendicular to lock face and continue drilling until the bit breaks through the rear of the lock. What this procedure does is drill through all the lock pins at the shear line, forming a gap in that position. Use a turning tool to rotate the plug. If plug will not turn, use a pick to raise the top pins and then rotate the plug. Occasionally the top pins will not be held up by burrs and must be raised. Re-drilling that pin will remove it. Once done the plug should easily turn.

FF Jig & Bit

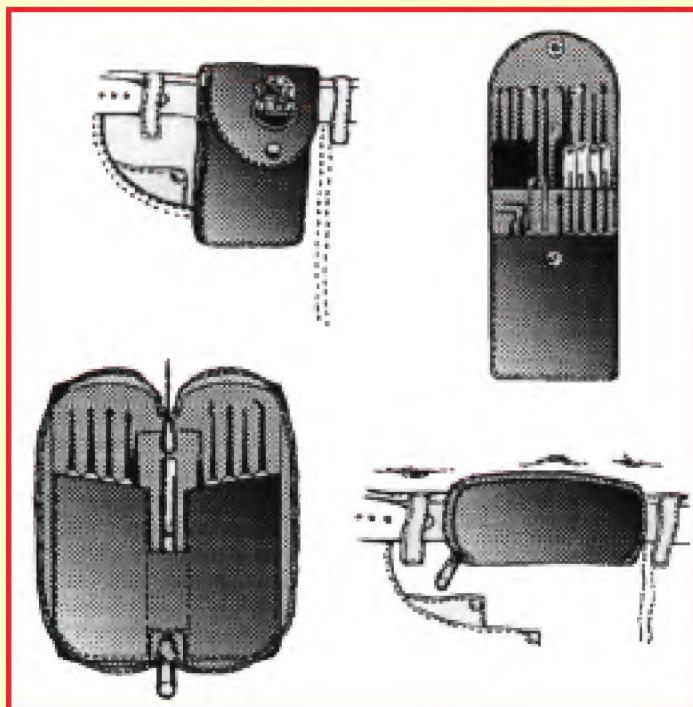
For flat faced cylinders. Uses 3/16" drill bit.

Follow same instructions as for the "RT" jig.

Although the "Safety Handle" helps minimize the risk of injury, standard safety procedures should always be followed. Be sure to wear safety glasses.

Although cylinder drilling is capable without the Modular Drill Jig Set, it does take the guess work out of the job and insures a more precise drilling.



**HPC Pick Set**

HPC introduces two new belt pick sets. The On-Call Belt Pick Set (OC-16) comes complete with 16 picks, 2 tension tools, and 2 extractors. The case is made of genuine leather with an official Locksmith I.D. badge on the front. The case is secured on your belt by an adjustable leather strap.

The On-Hand Belt Pick Set (OH-8) comes complete with 8 handled picks, 2 tension tools, and HPC's EZ-6 Changeable Vise Head Key Extractor Set. The case is made of genuine leather and is secured on your belt by two adjustable leather straps.

Lockmasters Impress-Eze™ Blanks

Even under the best of circumstances it can be difficult to see the mark left by the pins in the impressioning process. This new series of Impress-Eze blanks has been designed to allow more definitive marking of the blade, as well as effortless filing due to the softer material.



[Click here for more information](#)



A lot of trial and error research went into the development of the proper impressioning alloy; one which is soft enough to mark and file easily, but tough enough to stand up to the abuse of impressioning.

As the photo indicates, the key has been milled in a fashion that will give the alloy material support during the impressioning process. The depth of the milling equates to the deepest depth, therefore, you will never have to file deeper than the alloy. Also, the brass support fingers give you visual orientation of the pin chamber positions so your cuts can be properly centered.

MBA Lock Bypass Tool

MBA offers a tool to impression Schlage "C" style keyway locks open more efficiently than picking. This invaluable,



high quality service tool is designed for repeated openings. A full instruction booklet and case plus all the tools and accessories needed for the job are included.

PRO-LOK Removal Pliers

PRO-LOK is well known for providing specialized professional-quality tools for the locksmith. From unique hand tools to highly detailed automotive lock service manuals, products are designed with the locksmith in mind. Face Cap Removal Pliers, the Cap Clincher™, the Clip-Zip™ door panel tool or the Unlocker™ (a special pick) for steering wheel locking bars, they've got it. For more information call PRO-LOK at (714) 633-0681.



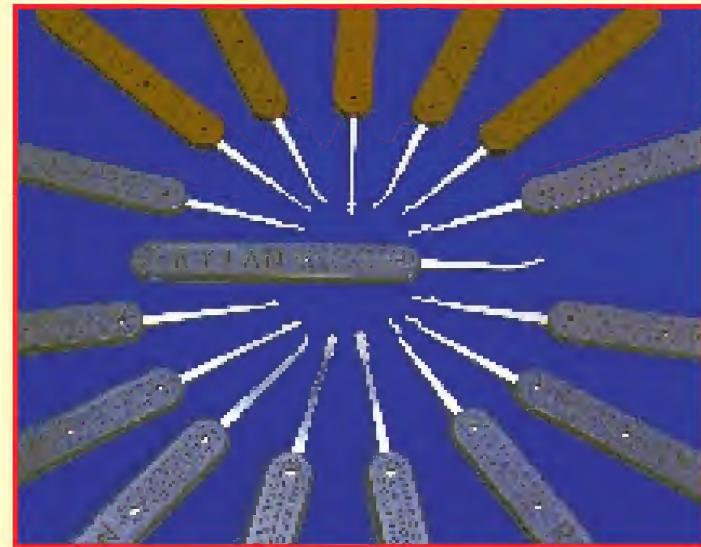
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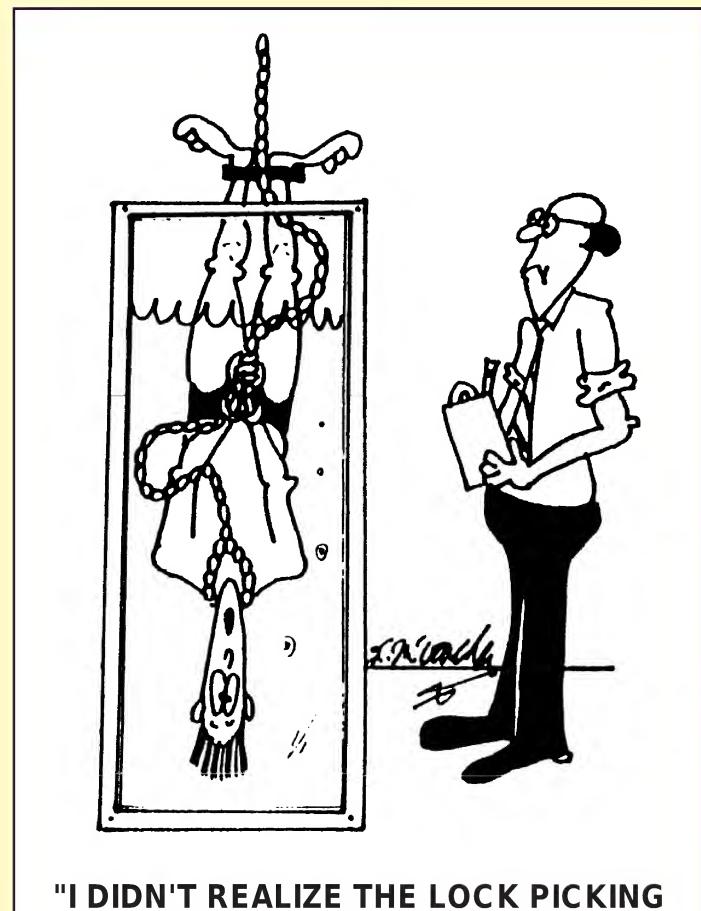
[Click here for more information](#)



RYTAN Lock Picks

Rytan lock picking instruments are made with durable stainless steel blades fused permanently to injection molded handles using an engineered material that let you "feel" just the right tactile response like no other lock picking instrument can. Rytan picks are made strong while remaining smooth and comfortable to the touch.

TNL



A TREASURE-TROVE OF LOCKSMITH TOOLS!

Safe Tools

STRONGARM MiniRig Pro Kit

Incredible things come in small packages. The StrongArm MiniRig Pro Kit is definitely one of them. If you have never used a fixed drill rig for safe penetration, you will be happily surprised at how easy this unit makes precision safe drilling and hardplate penetration.

The kit comes packaged in a foam filled case with specific openings for all the included parts. The kit is versatile and easy to use. There are three different attachment options ideal for many different safe and chest penetrations. The mini rig quickly snaps on and off the mounting fixture for fast hole inspection. This eliminates the need for backing out or readjusting the rig to inspect the hole or change bits.

There are three basic ways to attach the mini rig tower drilling system to the safe door, depending on the specifics of the opening and the make-up of the safe door. The first way is the most popular and versatile:

1. Use the drill point mounting template by attaching the template to the safe using the existing dial ring screw holes, then snap the rig on to the template. This aligns the hole exactly where you have chosen to penetrate the lock.

The included templates allow you to drill for the relocker, the fence, the lever screw or to scope the lock with a borescope. This unit will work on S&G, LaGard, M osler, and Diebold locks. Additional templates for GSA containers, M as-Hamilton, and other electronic locks are available. They are not included in the basic Pro kit.

2. The second way of attaching the mounting plate is with the hollow-bore hex bolt included in the kit. A drill bit and tap are included to facilitate the mounting of the base. It is a 1/2 inch hex bolt with a 5/16 hole drilled into the center. After marking the position, drill and tap for the bolt, mount the base and snap on the rig for drilling.

This particular mounting set up is especially good for safe doors with nonstandard dial mounting holes. This can also be used on the side of many high security containers when drilling for a change key hole to read or to drill off the key or combination lock bolt. This type of attack is especially important when used on safes and chests that incorporate glass plate relockers on the front door to protect the combination and key locks from full frontal penetration.

3. The third way to attach the special mounting plate is with the included two hardened self tapping anchor screws. This is helpful on sheet metal clad safes where drilling and tapping is not a good option.

The MiniRig is compact, light weight, durable, and safe. The unit is made of high grade aircraft aluminum for light weight and strength. Just eight inches in length, the rig can operate in cramped quarters and at less than three pounds, it is easy to pack and carry. The three sided shaft prevents the drill from slipping in the chuck. The three spoke handles provide comfort and control, and precise depth drilling measurements.

The StrongArm MiniRig Pro kit includes the MiniRig, dial puller, mounting templates, custom case and accessories. The dial puller incorporates two different dial removal systems. The first is the traditional slam puller system. This may be dangerous to the lock by either pulling the case of the lock out of shape (M osler) or by deforming the wheel pack post (S&G, Diebold, LaGard etc.).

The second way the dial can be removed is to take off the long bolt and weight and insert the included 'puller' screw. Just drill down to the end of the dial spindle with a 5/16 inch drill. Once the brass or Zamac is exposed, attach the puller cup with the four Allen screws and tighten. Now, just tighten the tapered bolt and the dial will be pulled off the end of the dial spindle. This is especially important in M osler locks, where re-use of the dial may become necessary.



Continued from page 24

RQ ANGIOLAZ LA-35

The AngioLaz LA-35 is a battery-operated illuminator for use with borescopes having ACM I or WOLF/ Dynonics light guide adapters. This small battery pack fits easily into a shirt pocket. It contains rechargeable batteries that will last one hour when fully charged. The system can be operated directly from a supplied wall-mount power supply if the batteries are low.



KEEDEX D-18 Safe Change Key Set

No more searching through your tool box for that "one" safe change key that you need. The Keedex K-18 Change Key Set, contains twelve of the most common change keys, all in a handy case. The durable keys are made of stainless steel. Keys fold out "knife style," allowing you to select the proper tool.



LOCKMASTERS Mad Mike's Manipulator



Lockmasters is excited about this new revolutionary tool. Designed by a safe technician for safe technicians, the Mad Mike's Manipulator uses triple beam technology for the

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AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

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most precise, accurate manipulation aide on the market. The LCD panel assists in taking readings and gives you accurate digital results that can be broken down into 100ths of a number. No other manipulation tool even comes close or is as easy to use!

MBA LeFebure 770 Lock Opening Tool

The tool to open these safe deposit locks is remarkable. It's easy to use and no picking skill is required. Just the quick application of the tool in the renters side and the lock is open and ready for you to set new keys. M BA can supply you with extra brass tips too.

**PRO-LOK Drill Bits**

PRO-LOK offers drill bits for safe work. Butter Bits originated the 'Negative Rake Angle' tip to give you the best performance. This unique tip shape is specifically designed to easily penetrate hardplate on safe doors. Invented by a metallurgist, these high quality drills are made in England and imported to the United States exclusively by PRO-LOK for Safe Opening Specialists like you.

STEELMAN Borescope

Steelman has completed production of a new advanced borescope. The borescope is used by placing the lighted mirror shaft into any black void location that requires inspection without disassembling the unit. The Steelman Borescope comes complete with a battery pack, lighted mirror shaft, a sight tube with eyepiece and is packaged in a zippered carry case.



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Power Tools (and Installation Aids)

DREMEL MultiPro Super Kit

Do you own a Dremel tool? If you don't, your tool box is not complete. Next to your drills, saws and hammers should be a Dremel tool. Dremel has been producing compact high speed rotary cutting devices for a long time. Much of the tool's popularity is due to its versatility. It can be used to: cut, grind, sand, sharpen, drill, polish, deburr, buff, route, carve and much more. There are a number of uses and numerous situations in which a Dremel tool can be used.

It is the perfect tool for small cutting and grinding jobs.

The baby brother to the die grinder, the Dremel tool is most comfortable in those small job applications. It is comfortable, well balanced, easy to handle and can reach speeds of 30,000 rpm. Make no mistake about it. The Dremel tool may be small, but it is not a toy. If not handled properly, severe bodily injury can be inflicted. When using the steel saws, cutoff wheels, high speed cutters or tungsten carbide cutters, always have the work securely clamped. Never attempt to hold the work with one hand while using any of these accessories. The reason is that these wheels will grab if they become slightly canted in the groove, and can kick-back causing loss of control, resulting in serious injury. When the cutoff wheel grabs, the wheel usually breaks. When the steel saw, high speed cutter or tungsten carbide cutter grab, it may jump from the groove and cause loss of control.

The Dremel tool has a small, powerful electric motor, is comfortable in the hand, and is made to accept a large variety of accessories including abrasive wheels, drill bits, wire brushes, polishers, engraving cutters, router bits and cutting wheels.

The real secret of the Dremel tool is its speed. The typical drill is a low-speed, high torque tool; the Rotary Tool is just the opposite - a high-speed, low torque tool. The chief difference to the user is that in the high speed tools, the speed combined with the accessory mounted in the collet does the work. You don't apply pressure to the tool, but simply hold and guide it. In the low speed tools, you not only guide the tool, but also apply pressure to it. It is this high speed, along with its compact size and wide variety of special accessories, that makes the Dremel tool different from other power tools.

The 3956 Dremel MultiPro, Super Kit contains all the power and accessories you need to tackle any task. The Dremel Super Kit features the variable speed corded MultiPro tool, a FlexShaft attachment, 72 accessories, a quick change collet nut, and a deluxe carrying case with a removable accessory storage tray.

The advantage of the 3956 kit comes from the variable speed MultiPro tool. This handheld rotary tool delivers speeds from 5,000 rpm up to 30,000 rpm. Coupled with the accessories, the MultiPro tool handles all kinds of tasks on various materials wood, stone, glass, metal and other surfaces.

Held like a pencil, the 36inch FlexShaft cable, which is included in the 3956 kit, provides Multi-Pro tool users with fingertip control and precision. It's ideal for projects requiring complete accuracy, such as fine sanding, shaping ceramic tile, detail drilling, slotting screws and cutting bolts.



The flex-shaft cable is a very nice addition to the Dremel tool. It allows for access to much tighter spaces due to the smaller diameter than the Dremel tool and flexible capabilities. The flex-shaft attachment is also much easier to use for those intricate applications because of its lighter weight and size.

The deluxe carrying case allows consumers to transport the MultiPro tool and accessories wherever the project or hobby is located. The removable accessory tray ensures bits are always within easy reach.

Packed with 72 of the most popular Dremel tool accessories, the Super Kit lets users cut, grind, sand, sharpen, drill, polish, buff, deburr, route and carve. The kit includes a 175+Uses Guidebook that provides consumers with step-by-step project instructions.

The Dremel tool is a great companion for any service vehicle, store or home. Once you have one, you will find a million uses for it and will wonder how you ever did without it.

Continued from page 28

A-1 Mortise Lock Tool



A-1's new M-100 is the ideal tool for complete mortise lock installation. Use the M-100 to prepare the mortise cavity and faceplate pocket then insert

the optional side-plates for crossbore holes. The self-centering mortiser handles doors from 1" to 2-1/2". The backset is instantly adjustable for 2-3/4", 2-1/2", & 2-3/8". Includes mortising bits. Optional sideplates are available for Arrow, Baldwin, Marks, Schlage, and Simplex.

MAJOR MANUFACTURING HIT-441

Major Manufacturing's new HIT-44 Drill Master is now available in kit form. The first kit available is the HIT-442. Included with the Drill Master is a 2-1/8" multi-spur bit, 1" brad point bit, quick change bit holder, 1" strike locator, a 3 in 1 latch mortiser, break out plates, bit adapters and tool box. Larger kits with more options will be available in the near future.



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MILWAUKEE Introduces 14.4 Volt Driver/Drill

Milwaukee Electric Tool Corporation has introduced a heavy-duty 14.4 Volt Power-Plus 1/2" Driver/Drill (Model 0511-21 Kit) which delivers more work in an hour.



The driver/drill has unequaled power, with a rare earth motor that delivers 280 in./lbs. maximum torque. The tool's two speed ranges allow 0-1250 RPM for general purpose drilling, and 0-450 RPM when extra torque is required.

TNL

THE WEBZONE

A MONTHLY REVIEW OF WEB SITES

American Security Products Company

<http://www.web-marketing.com/amsoc/>



AM SEC's site offers information and photos on every category of safe imaginable, from under-counter safes all the way up through vault doors and everything in between. They show you a view of the safe and give all the specs such as size, weight, inside dimensions, and more.

Provisions are made so you can download a digital copy of the catalog, and even the software you'll need to view the catalog on your computer. Or you may use the e-mail button to request free literature to be mailed to you. Also check out the scoop on AM SEC's electronic safe locks.

Rutherford Controls

<http://www.rutherfordcontrols.com/>



Boy, here is a site that should convince you to go out and buy a computer if you don't already have one. While this site has a full range of product information, one area stands above the others in usefulness.

Rutherford First Strike™ software is downloadable and once you have the program, it instantly suggests the right strike for whatever application you need. You simply point and click to answer some basic questions such as frame type, lock type, latch location, voltage, etc. The program then tells you exactly which strike to use. The software is free and appears to be very simple to use. If strike selection has ever confused you, check out this part of the web zone.

Mark Bates Associates

<http://www.mbausa.com/>



In his corner of the web, security expert Mark Bates offers info on his products, consultation and training. But one of the most interesting places is what we would call the "Goodie Section," filled with interesting tools and gizmos for locksmiths.

You won't be able to just leap into that section, though, because it is wisely secured with password requirements. However, you may apply for access online. Then you'd be able to view and read about lots of tools such as automotive, bypass, key machines, lock picks, scopes, safe locks, safe tools, etc.



Olympus Lock

<http://www.olympus-lock.com/>

If you ever had a question about cabinet locks, you'll probably find the answer right here. Product info is offered on small and large pin tumbler, IC core, brass padlocks, and also has some nifty conversion charts.

Text explains advantages to the locksmith offered by the company's products. And some helpful tips are included when considering which lock to use in a given application.

Aiphone Corp.

<http://www.aiphone.com/>



If you're looking for simple to complex systems of audio and/or video communications, you've come to the right place. Aiphone makes a variety of systems for simple residential use, easily locksmith installable, all the way up to complex products for apartment buildings.

What should prove to be the most useful part of the site is now under construction. But it is a Design Center intended to help you choose, design and install the system. More and more customers want this technology and Aiphone supplies locksmith friendly information here.

Master Lock Co.

<http://www.masterlock.com>



Cool Staff

Well, it looks like they have mastered the art of website creation too. This place is huge....if it were a room, you'd hear an echo. But not because the site is empty. Instead, it is filled with layers of information of interest to consumers, but also locksmiths. A full set of product descriptions gives you all the technical data you need. Believe us, if Master makes it, it's online.

Two cool points. First, they give their phone number if you have a code and can't find bitting...414-444-2800. Second, we were impressed that they mention locksmiths first when talking about availability.

TNL

Master Lock introduces **TwinBolt**



The TwinBolt is an interesting locking device. It is not your typical interconnected lockset. The original version TwinBolt is shown in Photograph 1. Because of a design change before product introduction, you see some differences to it later in this article. It has part of the standard features you might expect, such as the dead latch

by Sal

Dulcamaro, CML inside and the keyed lever on the outside. It

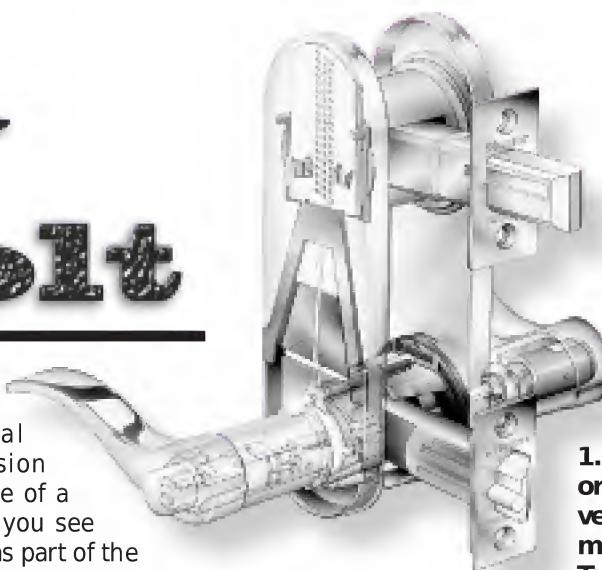
has a deadbolt, but there is no thumb turn on the inside and no separate key operated cylinder on the outside.

Features of the TwinBolt

The TwinBolt is an interconnected lockset, but that does not fully describe how it works and its features. It is the first (to my knowledge) interconnected lockset that will install in two cross bore holes of varied spacing. That feature alone makes it quite versatile. If you are unable to replace an obsolete interconnected lockset because no current manufacturer uses the same spacing dimensions, it can adapt to the spacing pattern within the range of 2-7/8" to 6" apart. It is also capable of replacing a knob and deadbolt combination that was not interconnected.

Most deadbolts and knobs, that are not interconnected, are not usually precisely spaced during installation. As a consequence, it is not usually practical to replace the two separate locks with an interconnected lockset. The likelihood of unplanned spacing to exactly match the precise spacing requirements of a standard interconnected lockset are probably nil. With the TwinBolt, spacing is generally inconsequential. So within the allowable range, the TwinBolt can replace a separate knob, or lever latching lock and deadbolt that were not interconnected. Normally the only other practical option would be drilling new holes and using a cover plate.

TwinBolt is also an automatic locking deadbolt lock. When the lock is set and the door is closed, a trigger mechanism within the bolt fires it out and deadlocks



1. The original version master TwinBolt.



2. Other than the latch and bolt, all the other parts to be assembled are shown.



3. The allowable spacing variation ranges from 6" to 2 7/8". The spacing is set at 6".

it. There is no inside thumb turn to operate the bolt for the lockset. The trigger locks the bolt and the lever handle that retracts the latch also retracts the deadbolt.

Finally, it appears that the outside lever uses some type of clutch mechanism. When locked, the outside

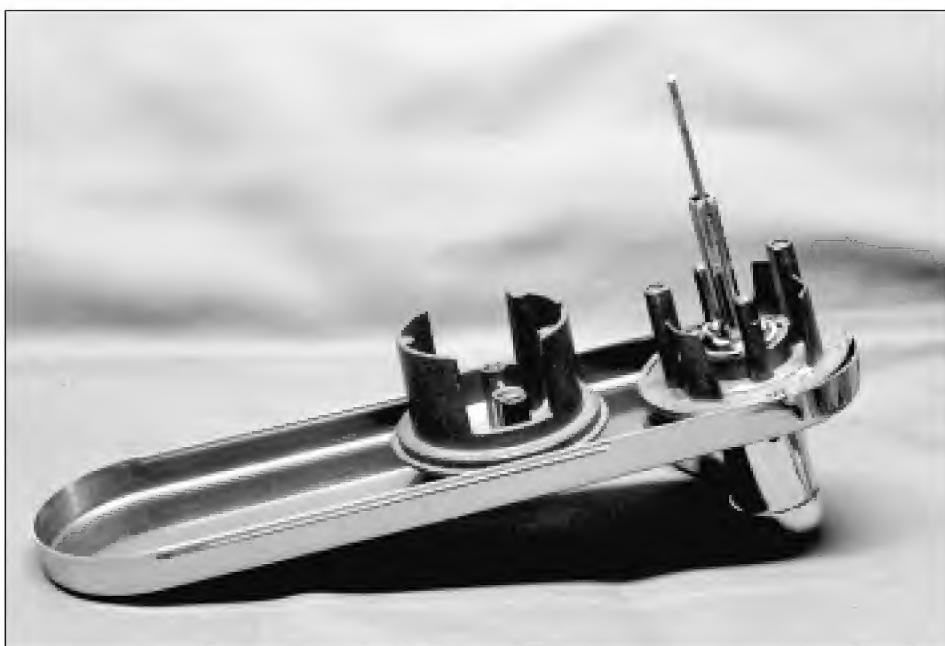
lever turns freely without retracting the latch or bolt. When unlocked, the outside lever retracts both the latch and bolt.

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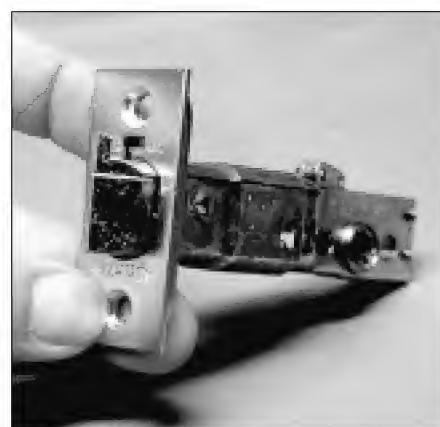
Other than the latch and bolt, all the other parts to be assembled are shown in Photograph 2. Part of what

allows the variable spacing between the cross bore holes is apparent in Photograph 2. The outside trim has the lever handle latch lock chassis at the bottom of the plate to the right in the photograph. Toward the top to the left in the photograph, is the cast part which moves up and down to adapt to the spacing of the cross bore holes. The inside attaching screws for the bolt mechanism will tie into that piece to help hold the inside mechanism securely on the door.

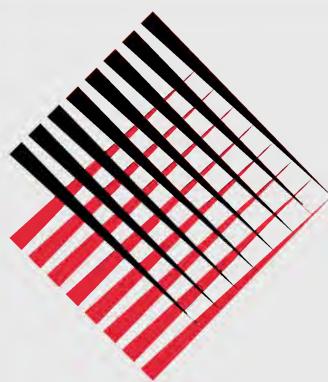
The allowable spacing variation



4. The spacing has been shifted from 6" to 2-7/8".



5. The updated automatic bolt is shown. The bolt is adjustable for either 2-3/8" or 2 3/4" backset.

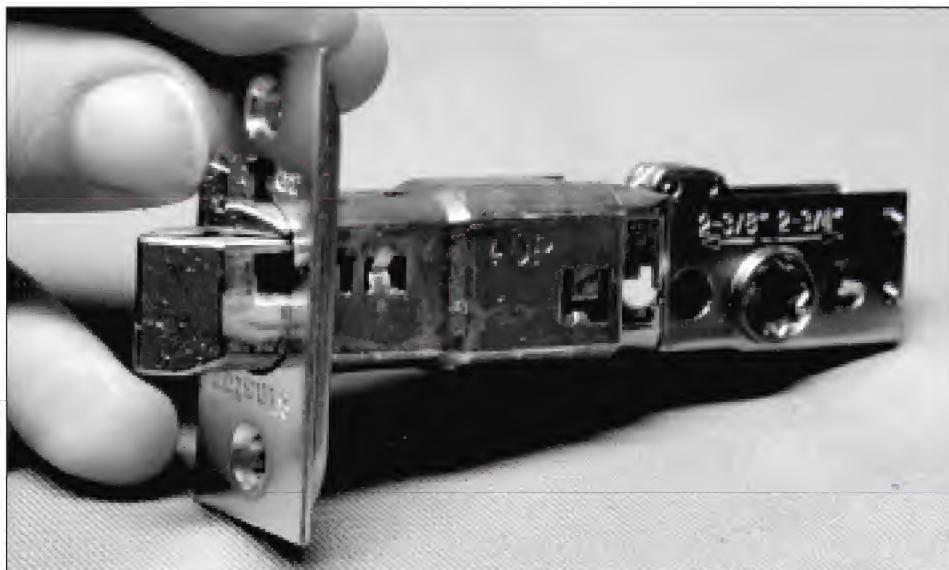


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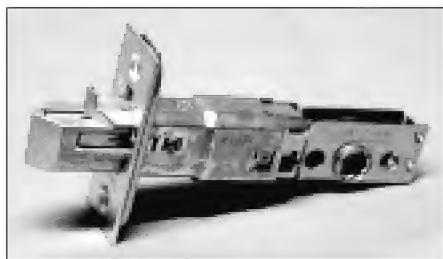
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6. The trigger mechanism. Before the bolt is triggered and deadlocks, it acts like a spring latch.



8. The outside assembly lined up to the cross-bore holes.

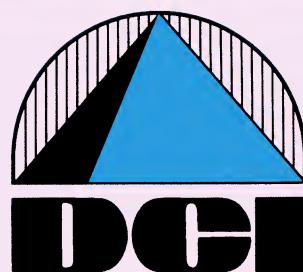


7. The bolt in the deadlock position.

ranges from 6" to 2 7/ 8". The spacing is set at 6" in Photograph 3. The spacing has been shifted to 2-7/ 8" in Photograph 4. Depending on the spacing of the holes already drilled, the TwinBolt should be able to accommodate every fractional variation in between those two dimensions.

For unprepared doors, the

recommended center to center spacing dimension is 5-1/ 2", because that is standard for a few different brand interconnected locksets. That recommendation doesn't affect the lock ability to adjust to all other spacing patterns.



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9. The inside view with the outside assembly inserted through the cross bore holes.

The Automatic Deadbolt

The TwinBolt was shown at a number of trade shows with a different design automatic deadbolt mechanism. The updated automatic bolt is shown in Photograph 5. The bolt is adjustable for either 2-3/8" or 2-3/4" backset installations. The bolt is split into two parts.

The trigger mechanism is demonstrated in Photograph 6. Before the bolt is triggered and deadlocks, it acts like a spring latch. When the door is closed, the larger (bottom) part of the bolt starts to enter the opening of the strike plate. The smaller (top) part compresses, and if the inside locking button is set it triggers the larger part to extend out, ultimately to deadlock as in Photograph 7. If the inside locking button isn't set, the bolt won't trigger and the door won't lock.

The original version of the automatic bolt was a one piece bolt. It was changed because it was too easy to accidentally trigger the bolt when the door was still open. If the bolt deadlocked while open, the force of someone trying to close the door could damage the extended bolt or the lock itself. The two piece bolt minimizes the chance of accidental triggering. You would have to push in only the small top part of the bolt to trigger the new bolt, which would almost require deliberate effort to accomplish.

Assembling the Parts

With the latch and bolt already installed, Photograph 8, shows the outside assembly lined up to the cross-bore holes. The spacing of the components for the outside assembly is easily matched to the hole spacing. Photograph 9, shows the inside view with the outside assembly inserted through the cross bore holes. The interior parts will separately attach to both the upper and lower exterior units with matching upper and lower interior units.

The interior deadbolt assembly (upper unit) is put in place for attachment in Photograph 10. Like a few other parts of the lockset, this unit is hand changeable back and forth from right to left hand operation or vice-versa. A square shaped spindle toward the inside of the unit will fit into the matching opening in the automatic bolt. Because of the lock construction, there is no deliberate operation of the bolt directly in line with the cross bore hole on the inside or outside. All motion to the bolt is directed to it through the mechanism of the interconnected lockset. Unlocking of the bolt from either side of the door comes through the lever handles on either the inside or outside.

The interior deadbolt assembly is attached in Photograph 11. You will notice three columns of holes running up and down through the center of the interior deadbolt assembly. The



11. The interior deadbolt assembly is attached.

TwinBolt interconnected operation is accomplished (with various hole spacing) with the help of that part.

The interior lower unit assembly is being held with its back side in view, also in Photograph 11. A small diameter metal rod in that unit will connect to one of the holes of the interior deadbolt assembly. That rod connected to the upper deadbolt assembly allows the lever handle to both operate the latch and the deadbolt simultaneously.

Both the upper and lower interior assemblies are attached in Photograph 12. The metal rod of the lower unit was inserted into one of the lower holes of the upper unit. Because the upper and lower units are fairly wide apart, the rod is in one of the lower holes. If they were much closer together, the rod would have fit into one of the higher holes in the interior deadbolt assembly. The inside trim plate (to the left in the photograph) will fit over both attached interior units.

After the inside trim plate is attached, the interior lever handle is all that is needed to complete the assembly of the TwinBolt onto the door.



10. The interior deadbolt assembly (upper unit) is put in place for attachment.

TwinBolt Mechanical Operation

The TwinBolt, although a combination latch and deadbolt lock, has only one operating handle on each side of the door. Operation of the latch and bolt is not accomplished with two separate handles or controls on each side, as is common for most other interconnected locksets.

The more traditional style of interconnected lockset will usually have a keyed cylinder for the knob/lever and a separate keyed cylinder for the deadbolt (for the exterior). The interior will usually have the inside knob/lever handle and a thumb turn for the deadbolt.

From the outside, unlocking usually requires key operation of both the knob/lever and the deadbolt. From the inside, unlocking can usually be accomplished by merely turning the knob/lever. For interconnected locksets, turning the interior handle should retract both the latch and bolt simultaneously. A separate inside thumb turn, though, will usually just retract the deadbolt and leave the latch unaffected.

Like a standard interconnected

lockset, turning the interior handle of a TwinBolt will retract both the latch and deadbolt. Because there is no inside thumb turn on a TwinBolt, there is no separate option to only retract the bolt. Likewise on the outside, the outside keyed handle retracts both the latch and bolt.

Photograph 13, shows how the motion of the handle operates both the latch and bolt. The handle on the lower unit directly operates the latch. As the handle moves up or down, the metal rod connecting the upper and lower units pulls down on the mechanism of the interior deadbolt assembly to also retract the bolt. When the key unlocks the unit from the outside, turning the handle from the outside also transmits the same motion. Turning the outside handle will also cause the metal rod to engage the mechanism of the upper unit.

When the button is not set to lock (button is sticking out), as in Photograph 14, the bolt will not trigger when closed and both the inside and outside handles will retract the latch to open the door. When the locking button is pushed in as in Photograph 15, the spring action of the bolt mechanism allows it to push inward as

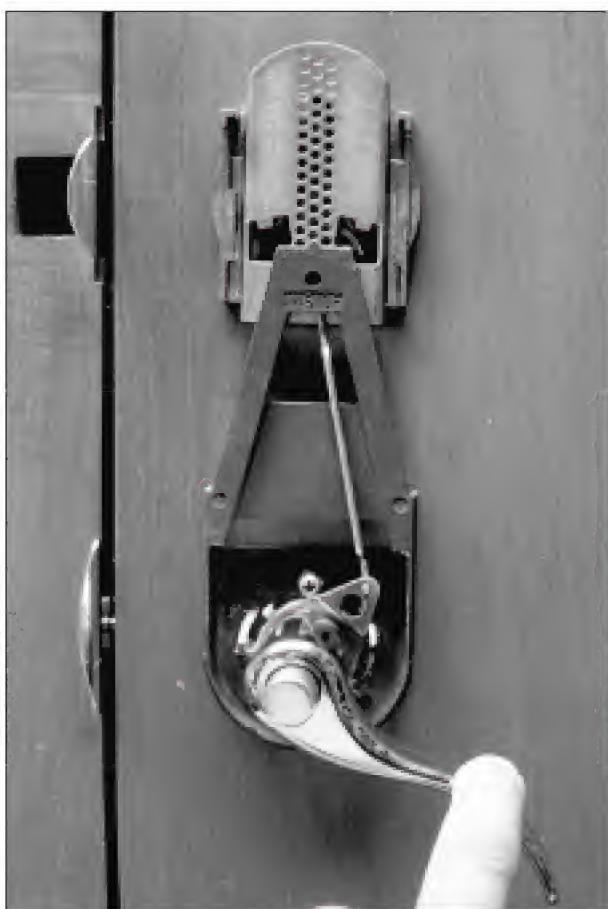


12. Both the upper and lower interior assemblies are attached.

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13. The motion of the handle operates both the latch and bolt.

the (temporary spring action) bolt hits the extended lip strike plate. When the two piece bolt encounters the frame side of the strike plate, the larger (lower) part of the bolt will start to enter the strike opening. As long as the large part moves outward and the small (upper) part of the bolt stays pushed inward by the solid surface of the strike plate, the trigger mechanism will be activated and the bolt will fully extend until it deadlocks.

Unless the upper part of the bolt pushes in separately, the bolt will not trigger. If someone was to accidentally bump into the bolt, it would be highly unlikely that the bolt would trigger and deadlock by mistake. Over the years I've seen a few other locks with automatic deadbolt mechanisms, and accidental triggering was



14. When the button is not set to lock the bolt will not trigger when closed.

usually the major weakness of most of them. I think that Masters innovative triggering device will help avoid the pitfalls that befell the others that went before them.

T heO utsideC lutch M echanism

With the widespread use of lever handles, more and more lock companies are using clutch type mechanisms. Thieves have been using ADA to their benefit by using the additional leverage of the lever handles to force open locks. Master Lock Co. has likewise constructed the TwinBolt with a type of clutch mechanism. Photograph 16, shows the outside lever turning with the inside button set and the automatic bolt deadlocked. Notice that even though the lever handle has been fully turned, both the latch and bolt remain fully extended.

E asyK eying

Rekeying or replacing the cylinder is fairly simple for the TwinBolt. The standard residential key-in-lever lock from Master requires a few tricky maneuvers to get the cylinder out of the lock. The lever handle TwinBolt, by contrast, uses a more traditional method of cylinder removal. Just insert the key and rotate 90 degrees clockwise. Then use a poke tool to push in on the spring loaded retainer

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15. When the locking button is pushed in the spring action of the bolt mechanism allows it to push inward as the bolt hits the extended lip strike plate.



16. The outside lever turning with the inside button set and the automatic bolt deadlocked.

pin at 3 o'clock or 9 o'clock in the neck of the handle. The lever handle (with cylinder inside) will pull right off. Inside the handle a screw like part is turned and the cylinder will come out. Like most other Master brand knob and lever handle locksets, a set of snap ring pliers will be required for cylinder disassembly.

If you wish to replace the cylinder and match the lockset to another brand of lock, Master makes replacement cylinders with competitor keyways. The standard Master cylinder is directly compatible with old Dexter cylinders. The other compatible brand cylinders are: Kwikset/Titan, Schlage and Weiser. This feature can be quite handy if you find yourself replacing another brand of interconnected lockset. Your customer may want you to key alike the TwinBolt to the other locks in the house.

For additional information about TwinBolt or other Master products, contact: Master Lock Co. at: 800/308-9242. 

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Servicing the 1994

Mitsubishi Mirage



This month we take a look at the Mitsubishi Mirage, which may also be known as the Dodge Colt. The model we are exploring is a four-door sedan (see Photograph 1.). It uses one master key for all the locks and can also use a valet key. The key is the double-sided type, using eight spaces and five depths.

Opening:

The opening of this car is easy and painless. Simply wedge either front

door and use an Under-The-Button tool to lift up on the vertical lock button linkage rod (see Photograph 2).

Ignition:

The ignition lock is easy to service on this car. First you must remove the plastic two-part trim that encircles the steering

1. The 1994 Mitsubishi Mirage or Dodge Colt.



by Michael Hyde

column, also known as the clam shell. It is held on by three Phillips-head screws (see Photograph 3). Now unsnap the black plastic ring that attaches to the face of the ignition cylinder (see Photograph 4).

The next step is to remove the ignition cylinder. The ignition on this



3. Remove the three screws that hold the clam shell column shroud together.



2. Using an Under-The-Button tool allows easy opening for this vehicle.





4. Remove the trim ring from around the ignition cylinder.

car uses an active retainer system. Insert a working key and rotate the key to the ACC position and then depress the retainer using a 90 degree angle probe. Slide the cylinder out the housing (see Photograph 5).

To disassemble the cylinder you must remove the Tru-Arc ring from the back of the cylinder plug (see Photograph 6). The plug will then slide out the front of the cylinder housing. The plug contains all eight tumblers. The tumblers are of the bi-directional type. The ignition cylinder assembly

contains the cylinder housing, cylinder plug, tumblers, tumbler springs, plug washer, 'Tru-arc' ring, and the buzzer insert (see Photograph 7).

Note: When re-installing the plug into the housing, make sure the buzzer arms are in the correct corresponding positions (see Photograph 8).

Door Lock:

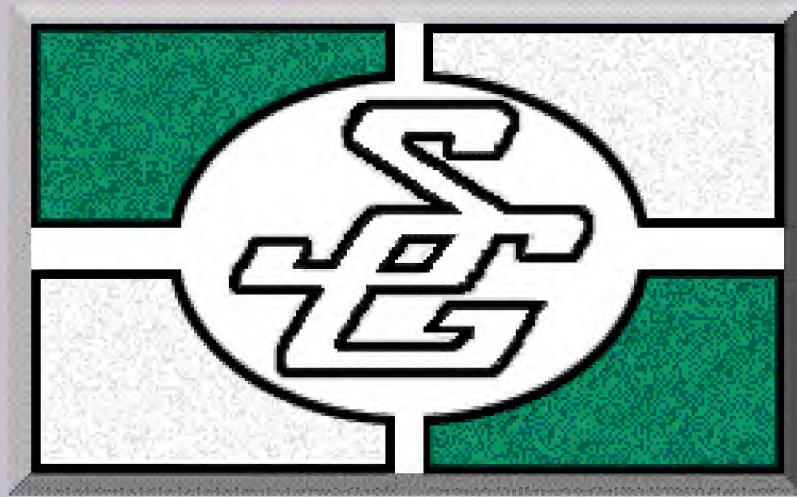
The door lock is of the modular type. The lock cylinder is contained in the black plastic door release handle (see Photograph 9).

The inside trim panel for the door is pictured in Photograph 10. You must

remove the Phillips-head screws in the door pull cavity, door latch release trim, edge of panel and the trim screw on the upper-forward section of the panel (see Photograph 11).

Now remove the panel as it is secured to the door by the standard push-in plastic clips. When removing the panel remember to disconnect the electrical connections (see Photograph 12).

This model has the power door lock activator switch attached to the lock cylinder (see Photograph 13). Remove the two 10mm bolts that

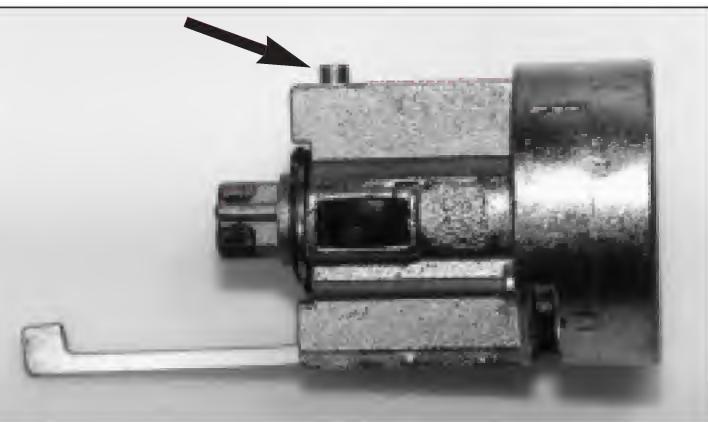
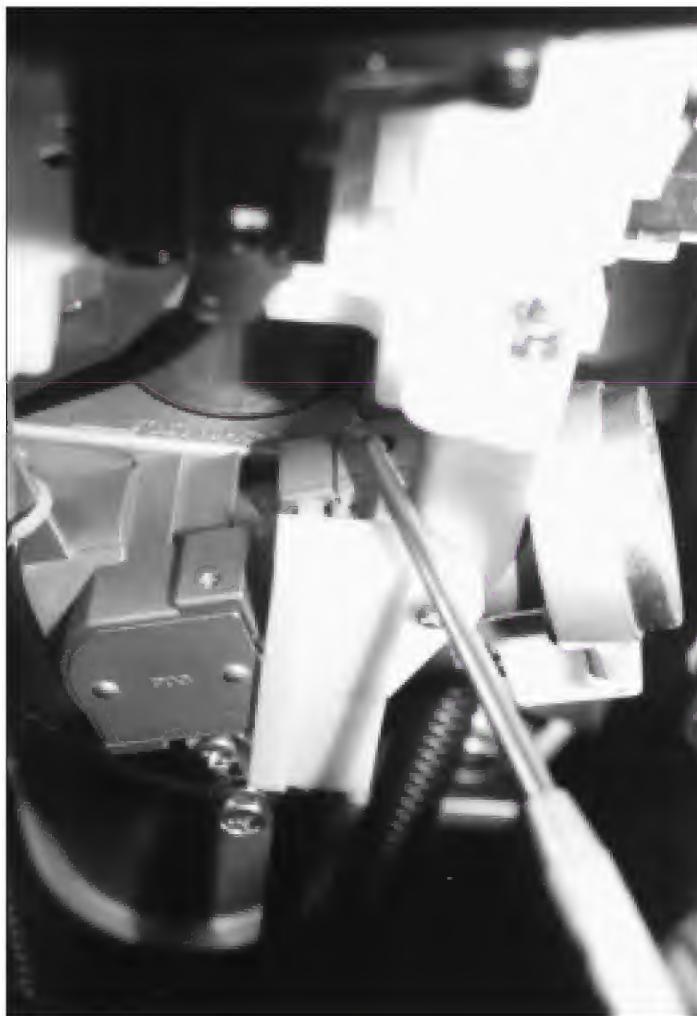


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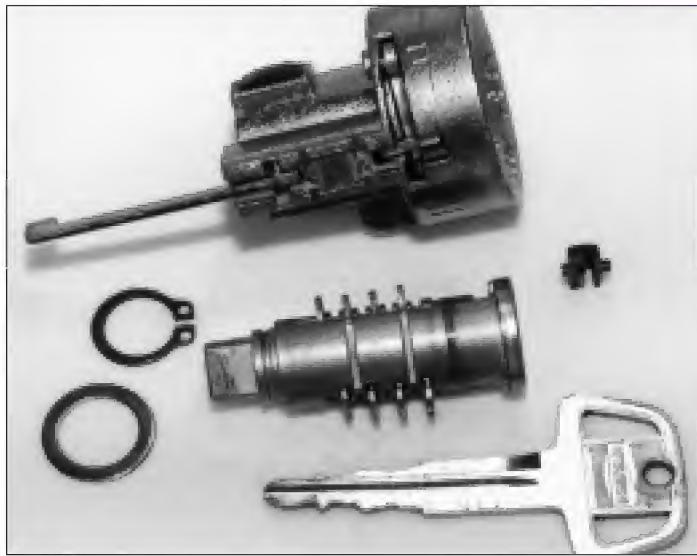
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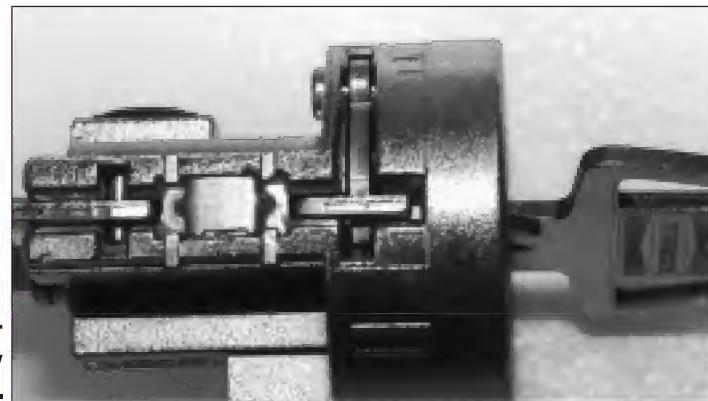
5. Depress the cylinder retaining button and slide the lock out of the housing.



6. The Tru-Arc ring must be removed from the back of the plug for disassembly.



7. The disassembled ignition cylinder.



8. During re-assembly, the buzzer actuator arms must be correctly placed in position.

Continued on page 44



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Continued from page 42



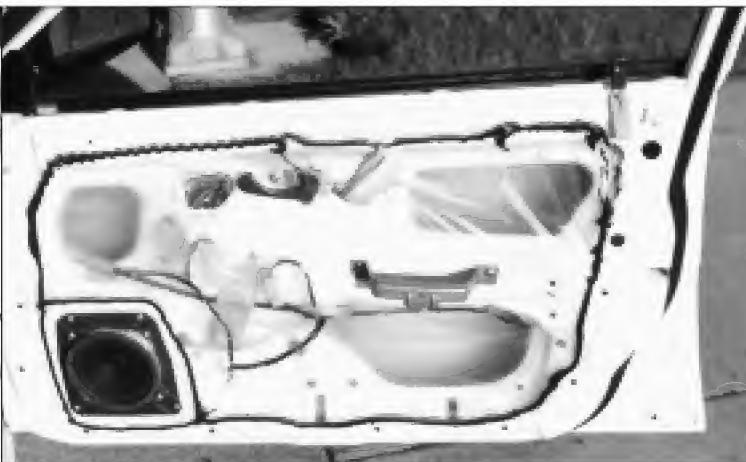
9. The door lock is part of the handle assembly.



10. The inside door trim panel.



11. Screws can be seen on the door pull handle, door latch release handle, edge of panel on latch edge of door, and front upper corner of the trim panel.

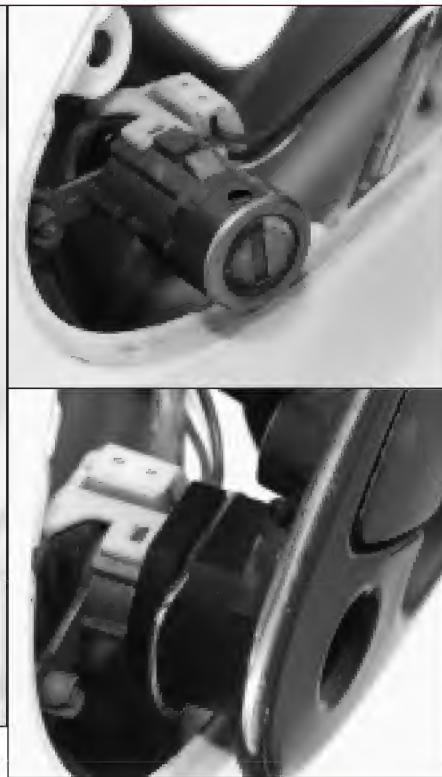


12. Be careful of electrical connections while removing the panel.



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13. The power door lock switch is attached to the door lock on this model.



14. Remove the handle from the door to release the lock from the handle.



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15. Remove the lock from the linkage and door lock switch. The code can be seen on the side of the lock.



16. Disassembled door lock.

attach the handle/ lock assembly to the door and slide out the handle. Next, slide out the retaining clip to release the lock cylinder (see Photograph 14).

Remove the linkage rod and unsnap the power door connector from the lock cylinder. The passenger side lock cylinder will have a five-digit code stamped on it. The code series runs from 30010 to 32009 (see Photograph 15).

To disassemble the door lock cylinder you must remove the face cap. This cap must be re-used, so care should be taken to remove it. Remove the tailpiece, cylinder washer and spring. The cylinder will now slide out of the lock housing. The lock cylinder

contains all eight tumblers. The door lock is composed of cylinder housing, cylinder plug, face-cap and shutter door components, tumblers, tumbler springs, plug washer, spring, tailpiece and 'E'-clip (see Photograph 16).

Trunk Lock:

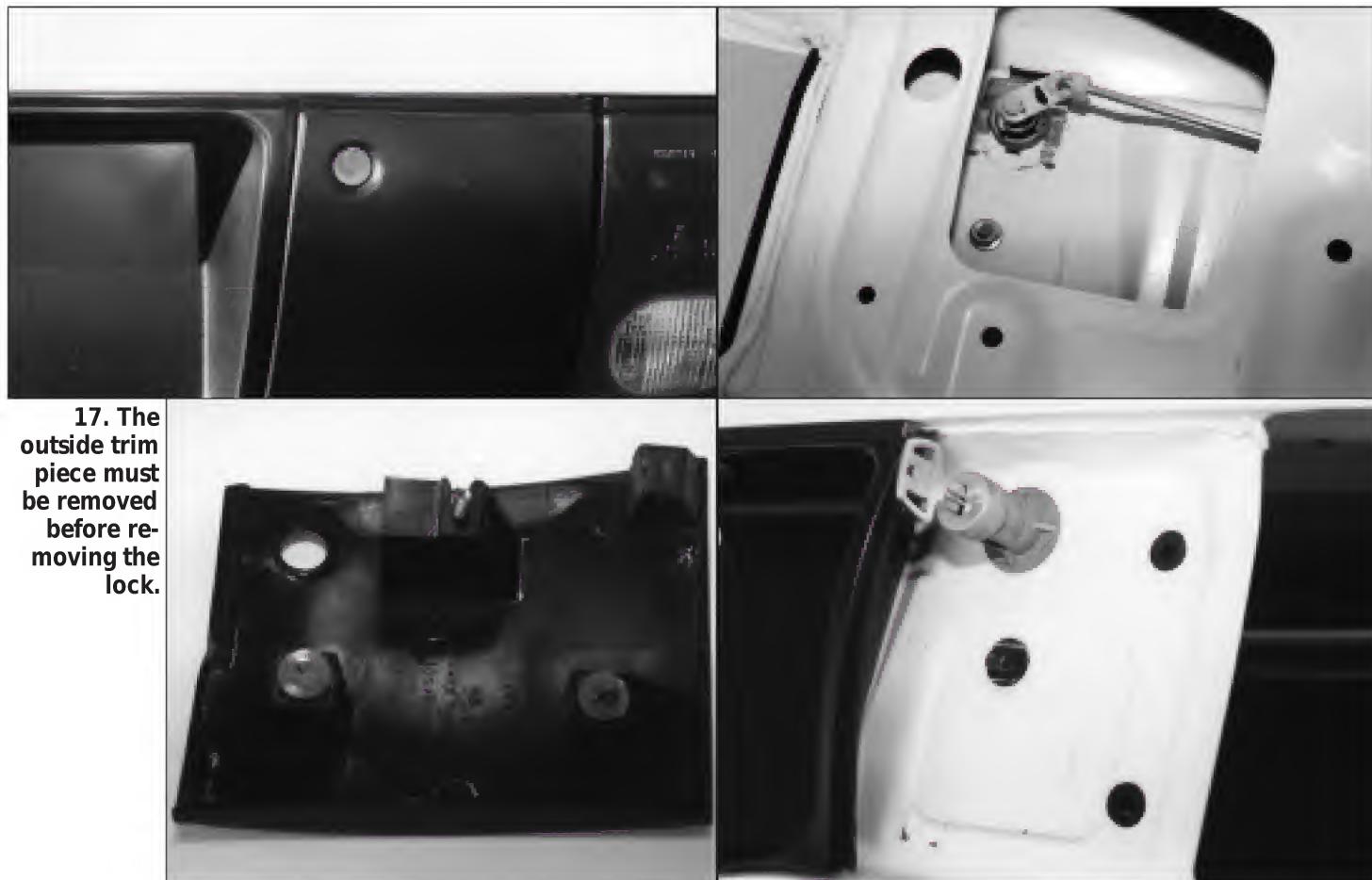
To service the trunk lock it will be necessary to open the trunk and remove the black plastic trim piece that covers the lock. The trim piece is attached to the deck lid by two plastic snap-in clips and one 10mm nut. Remove the nut and then unsnap the trim piece. Next remove the horseshoe style retaining clip, disconnect the linkage rod and remove the lock from the car (see Photograph 17).

Once the lock is removed from the car you can see the large drain-hole area in the bottom of the lock. To disassemble the cylinder you will need to remove the face-cap. This cap has to be re-used, so take care in removing it. Remove the tailpiece and spring. There is a retaining wafer in the back of the cylinder housing that must be depressed to slide out the plug (see Photograph 18).

The cylinder plug contains wafers in all eight positions including a valet wafer in the ninth position. The trunk cylinder lock contains the cylinder housing, cylinder plug, face-cap and shutter door components, tumblers, tumbler springs, plug spring, tailpiece and 'E'-clip (see Photograph 19).



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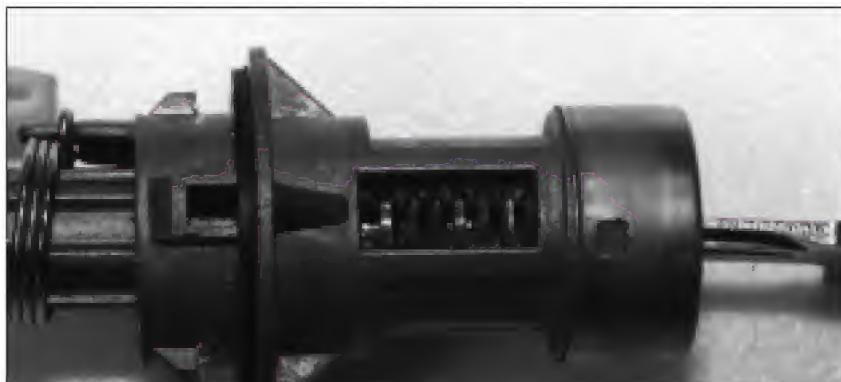


17. The outside trim piece must be removed before removing the lock.



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18. All the wafers can be seen through the drain hole on the bottom of the trunk lock. After removing the facecap, a plug retainer must be depressed from the back of the lock.



19. The disassembled trunk lock.

Gas Door Lock:

The trunk lock is secured to the gas door by the standard horseshoe style retaining clip (see Photograph 20). The gas door lock has a limited area drain hole to read tumblers through. The cylinder plug contains five tumblers in positions 4 through 8 (see Photograph 21).

Generating First Key:

Method 1 - Check owners manual for code, written in by the dealer or fellow locksmith.

Method 2 - Remove passenger door cylinder and read the code stamped on the lock.

Method 3 - Disassemble door cylinder or trunk cylinder and decode wafers to make master key.

Specifications:

Code Series: 30010-32009

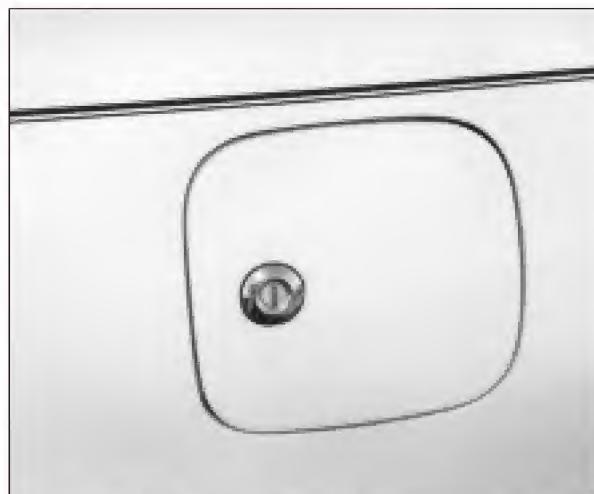
Key Blank: Ilco X224 / MIT3, Silca MIT11R

MACS: 3

Shoulder to center of first cut: .098"

Cut to Cut: .083"

Depths: 1-.310", 2-.294", 3-.278", 4-.263", 5-.250". **TNL**



20. The gas cap lock.



21. The gas cap lock disassembled.



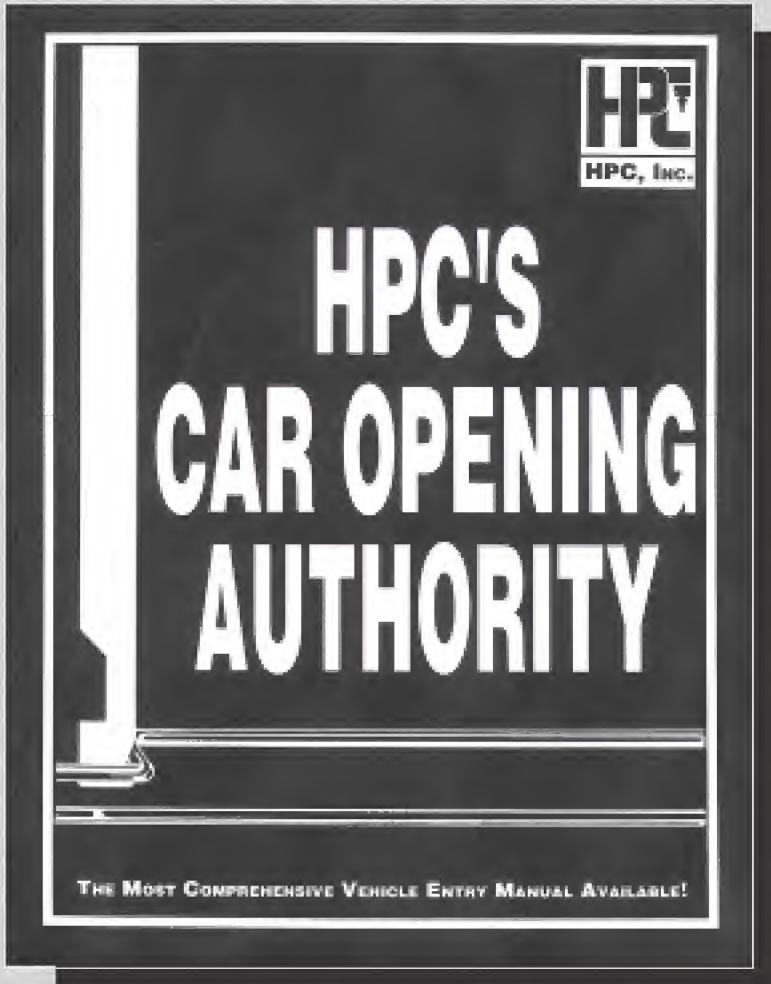


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A Monthly Review of
Technical Manuals

HPC's Car Opening Authority



The HPC Car Opening Authority is a loose leaf book bound in an 8-1/2 x 11" three ring binder. It is organized much differently than many of the other car opening manuals.

The book opens with Guidelines for Opening Domestic and Foreign Vehicles. This section covers Chrysler; Ford; General Motors; British Cars; Honda; Infiniti; Mazda; Nissan/Datsun; Toyota and Volkswagen. As the title states, this section gives brief opening guidelines for the given manufacturers listed.

Next is the Model Index. This section covers all the various manufacturers from A to Z and the models pertaining to each. The index lists the opening index section such as Section: BC-1 for Bell Crank Style locks or Section: LP-1 for Lazy Pawl Style locks. The Model Index covers years 1983 to 1997 for all the models listed.

There are 12 different lock style sections and the various methods used for that particular lock or linkage style. The various sections are: Section: BC for Bell Crank Style; Section: GM for General Motors Latch Style; Section: HR for Horizontal Rod Style; Section: LS for Lasso Style; Section: PX

for Lock Picking Style; Section: TC for Through Car Style; section: TH for Through Handle Style; Section: TL for Through Lock Style; Section: TV for Through vent Style; Section: UB for Under Button Style; Section: UO for Under & Over Style; and finally Section: VR for Vertical Rod Style;

Included in these sections is a list of the Manufacturers; Model that particular method works on; Years covered; Technique required; Tool needed; Motion needed to apply and some Comments. There is also diagrams of each Technique and tool used.

This is a comprehensive vehicle entry manual that is updated annually and costs \$140.00.

For more information on the HPC Car Opening Authority contact them at:

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The Bookmark

Sample Pages: HPC's Car Opening Authority

GENERAL MOTORS LATCH STYLE CHART

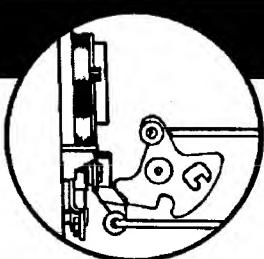
Manufacturer	Model	Year(s)	Tech. #	Tool #	Comments
Buick	LeSabre	91-96	GM-1	CO-64	Also HR-2.
Buick	Park Avenue	91-96	GM-1	CO-64	Also HR-2.
Buick	Regal	88-96	GM-1	CO-64	Also HR-1.
Buick	Roadmaster	91-96	GM-1	CO-64	Also HR-2.
Buick	Skylark	92-96	GM-1	CO-64	Also HR-2.
Buick	Riviera	91-93	GM-1	CO-64	Also UO-1 & BC-4.
Buick	Riviera	94-96	GM-1	CO-64	Also HR-2.
Cadillac	Deville	92-93	GM-1	CO-64	Also BC-4 & UO-1.
Cadillac	Deville	94-96	GM-1	CO-64	Also BC-4 & HR-2.
Cadillac	Eldorado	92-93	GM-1	CO-64	Also BC-4 & UO-1.
Cadillac	Eldorado	94-96	GM-1	CO-64	Also BC-4 & HR-2.
Cadillac	Fleetwood Brougham	92-93	GM-1	CO-64	Also BC-4 & UO-1.
Cadillac	Fleetwood Brougham	94-96	GM-1	CO-64	Also BC-4.
Cadillac	Seville/STS/SLS	92-93	GM-1	CO-64	Also BC-4 & UO-1.
Cadillac	Seville/STS/SLS	94-96	GM-1	CO-64	Also BC-4 & HR-2.
Chevrolet	APV (Lumina)	90-94	GM-1	CO-61	Also UO-1.
Chevrolet	APV (Lumina)	95-96	GM-1	CO-61	
Chevrolet	Beretta	87-96	GM-1	CO-62	Also UO-1.
Chevrolet	Camaro / Z28	92-96	GM-1	CO-64	Also HR-2.
Chevrolet	Caprice Classic	91-96	GM-1	CO-64	Also HR-2 & UO-1.
Chevrolet	Corsica	87-96	GM-1	CO-62	Also UO-1.
Chevrolet	Impala/SS	94-96	GM-1	CO-62	Also HR-2.
Oldsmobile	88 Royale	91-96	GM-1	CO-64	
Oldsmobile	98 Regency	91-96	GM-1	CO-64	
Oldsmobile	Achieva	92-96	GM-1	CO-64	Also HR-2.



BUICK-OLDSMOBILE

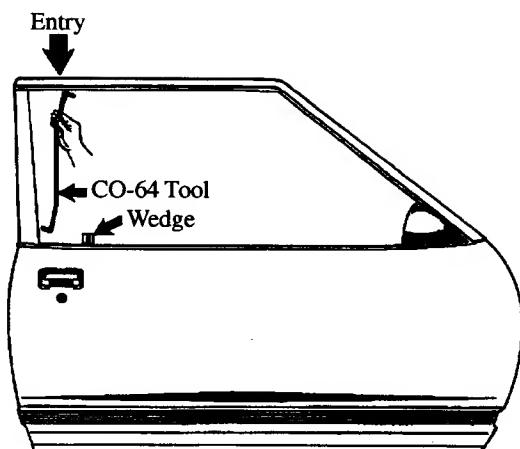
GENERAL MOTORS LATCH STYLE

Technique GM-1



Recommended Tool:
CO-64 (As shown)

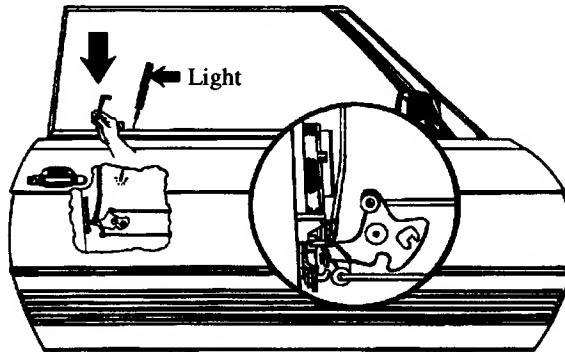
Optional Tools:
CO-62



PASSENGER DOOR

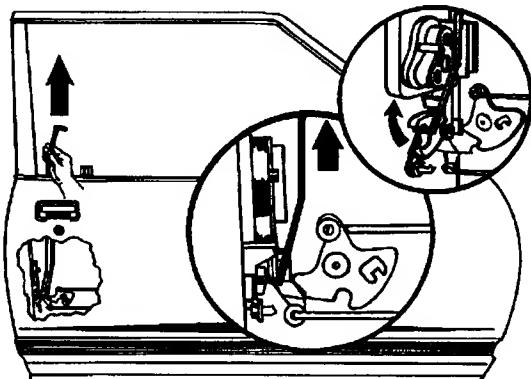
1.

Insert wedge(s) between glass and weather stripping. Insert light and follow outside handle linkage rod to latch. Locate lower part of latch.



2.

Lower tool down left edge of door. Locate *locking cam* between extension handle, linkage and linkage rod, which connects to lock cylinder pawl. Locking cam is a white "C" shaped lever on bottom of latch.



3.

Position tool on or under locking cam and lift up on cam, unlocking car.

NOTE: Do not use excessive force with this or any other opening technique, it will result in disconnected linkage. (See following page for alternate method if linkage has been disconnected.)

GM-1





How NOT to Fix a Safe Door



by
Dale W. Libby

Many of the safe and chest lockouts I encounter are the direct results of bad servicing by safe technicians who worked on the safe previously to me being called to save the patient. This article reflects such an incident. The operation was successful, but the patient died and had to be replaced.

There are many factors to be juggled with this safe opening. Some are the firsthand results of bad servicing, and others are the consequence of the customer using brute force to try and open the round door floor safe pictured in Photograph 1.

The safe head in question is a seven inch diameter round door with no label or other identifying

indications of who the manufacturer of the door is. On closer examination, the handle is held on by two studs and is trapezoid in shape. This is an indication of being either of Johnson-Pacific (JP) or a Meilink round door. The real indication as to what we can expect is made by the dial and dial ring configuration.

The dial and dial ring are clearly LaGard in manufacture, so we will call this a LaGard door. If one were to look up JP in the McOmie books, one would see the typical tri-bolt arrangement with the large LaGard round door lever arrangement. The drop in point is the standard 98 X 1 inch. A one eighth inch thick rotating hardplate is also indicated.

Before opening the safe head, I inquired if the safe had been working adequately. I also looked at the dial and ring closely. I saw scratch marks on the dial exactly like those made by

a pipe wrench or large pliers. I was correct in my assumption on both counts, and it gave me the clues as to what happened and why. I will put the story in order as to what happened outwardly, my conclusions, and then on to the opening, with a surprise at the end as to the actual lockout cause.

The safe is located directly adjacent to a pizza oven by about six inches. Six inches beyond the safe is another wall of this closed off cubicle. This confined space is used for lubricating the oven and servicing the electrical connections. At best, this location is cramped, hot, steamy, greasy and dangerous. When the oven is on, it is over 240 degrees in this area and it is easy to burn your left arm on the fiery wall, as I can easily attest to.

I had been servicing this head regularly for three years before the restaurant went through a new ownership battle, and all the old contractors were dismissed. The new owners chose to use their own providers for services, including the safe head. According to the manager, about six months previously, the safe head locked up when it was out of the floor and they could not get it to work. They took the head into a locksmith shop and was charged (according to the manager) \$160.00 to repair the safe head. Part of their repair is what caused the unit to malfunction, and was probably the cause of the first breakdown as well.

The lock shop would not stand behind their repairs and quoted a high price to come and drill open the safe head when it did malfunction. I undercut the price, so I could get the



1. Seven inch JP or Meilink round door safe head. Also known as a LaGard seven inch safe head. Note LaGard dial and ring.



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dubious experience of opening the safe and seeing exactly what the problem was.

This is what the manager finally admitted as to why the safe would not open. He did not want to tell the owner what he did to try and open the safe and cause the lockout. It would not have mattered. He did not cause the lockout, but he did compound the matter greatly.

After dialing the combination the manager felt the lever drop, but the dial would not turn to 94, the stop or open position. He decided to help the dial turn by putting a pipe wrench on the dial. He yanked the dial around to 94, but low-and behold, the safe would not open. He then put some large locking pliers on the dial and continued turning until the dial again spun free. Two days later, they called me with their tale of woe.

What had happened was the relock pin had been activated and stopped the dial from turning the opening plate and withdrawing the three locking bolts. The manager had, by raw brute force, literally cracked the dial cam, sheared the spline key, and sheared the drive pin on the drive cam. Many problems, only one solution.

I informed the customer as to the opening price of the safe head. I then quoted the price for a new complete head. When I was done with the perforating and opening of the safe head, it would be necessary to purchase a new one. They agreed, and I started an uncomfortable journey into the very pits of Hades (the Pizza Oven Caper) to get the door open as quickly as possible with as few burns to show for my efforts as I could acquire. Unfortunately, the diabolical oven burned me more than I did it.

Again in Photograph 1, we see a LaGard dial. In the past, this dial has caused a lot of work, resulting in broken spindles flush with the safe head door. Now, however, I have a good tool to easily defeat all LaGard and other dials that have their spindles pushed into the dial from the top, not the bottom of the dial. This tool is the dial puller manufactured and supplied by Time Masters of Topeka, Kansas. This outfit, owned and operated by Dan Graffeo and his lovely wife Lois, makes some incredible tools for the safecracker and handles a large line of locksmith tools and borescopes.

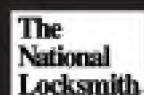
Photograph 2, shows a bottom view of the Time Masters dial puller. It clamps on to the dial ring, and a large threaded screw goes down the middle of the puller and quickly and easily pulls LaGard dials. Naturally, one must drill about 3/8 inch off the end of the dial spindle to remove most of the large taper. Once this is

2. Bottom view of dial puller with 4 connecting bolts and handle. It was easy to pull LaGard dial with this tool.



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accomplished, it is easy to turn off the dial without breaking the spindle.

The next consideration is how to drill and where to drill. I really did not have enough room to use a lever rig, and the handle was not going to be strong enough in this particular situation, so I chose to use the Strong Arm Mini-Rig and drill directly for the drop-in, and accomplish all my magic at the drop-in point of 98.

Photograph 3, shows the base plate attached to the door. In order to make room for it, I had to remove the handle and the left stud bolt. This bolt unscrews. Once the bolt was gone, the base plate fit easily on the safe door head. The stud can be

seen in the center of the plate, over the spindle hole.

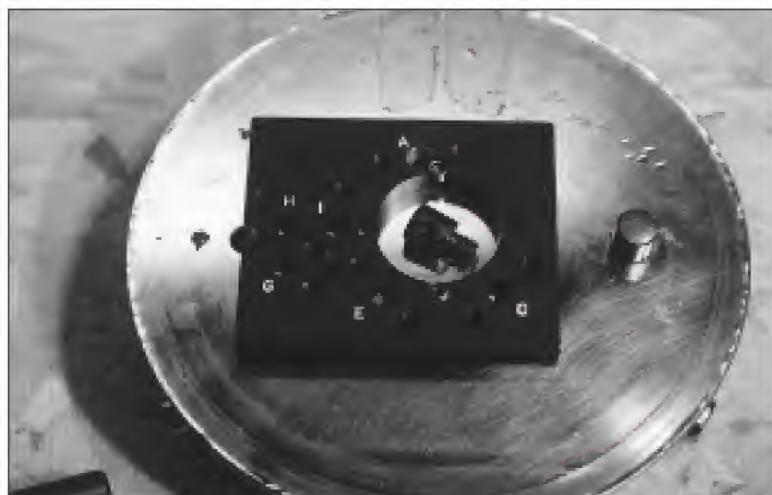
Once the plate was attached, I then connected the quick mount rig holder and bridged the Mini-Rig (see Photograph 4). I first drilled with a standard 1/4 inch steel drill bit. When I reached the hardplate, I switched to a Strong Arm 1/4 inch (New Style) hardplate drill bit and was at the drop in point in under four minutes from the time I started drilling. In the heat of the oven, this was good. The fewer burns, the better.

Once I got the hole made I probed the wheels to the drop in point. The lever (what was left of it) dropped in. I forced the lever to stay in the wheel pack, but I could NOT get the wheel

pack and lever to turn and withdraw the bolts. I drilled a small hole through the end of the lever and through the back plate. I inserted a thin but hardened wire in the hole and pulled UP on the back plate. When the wheel pack started to turn, I pushed the short wire into the safe and out through the back hole. I then continued to turn the dial and the safe head was open.

Photograph 5, shows the back of the safe head. At about 11:00 o'clock, we see one of the screws with a small washer on it indicated by the arrow. It was meant to hold on the back cover of the door. It did not. This is in fact what caused the safe door to malfunction.

In Photograph 6, we see an unbroken relock flange connected to the door. In Photograph 7, the broken flange knock-out is shown. Just below it (which is hard to see) is the broken knock-out. The previous repair was to put a washer on the screw to hold the knockout and plate in place. The washer was too small. It held the knock out, but not the plate. At the minimum, they should have used a much larger washer, or to do it right, they should have ordered a new inside cover plate.



3. StrongArm base plate attached to door by removing one handle stud.



4. Newly modified StrongArm Mini-Rig attached to door. Note quick release spring mechanism.



5. Bottom of LaGard head. Note relock knock-out at 11:00 is held on by a small washer.



6. Correct relock knock-out.



7. Broken knock-out with slug to right of hole.



8. Back cover removed showing three relock pins to the right of the bolts from bottom. Last wheel under opening lever is caked with burned on pizza grease.

Photograph 8, shows the inside of the safe mechanism with the three relock pins and their relative positions to the three bolts. If you look closely at the last wheel, you will see that it is black, and not brass in color. This is because it is caked with burnt on pizza grease from a spill or two. The gates on all three wheels were filed larger by the previous repair person.

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MARKS USA and the A-1 M-100

by
Sal Dulcamaro,
CML

Writing as regularly as I do, I'm quite accustomed to deadlines. If you have other things to do at the time, deadlines tend to sneak up on you and catch you by surprise. I've gone to the wire on a number of occasions, but for this article it was quite an adventure.

A-1 has a new installation jig: the M-100 Mortise and Crosshole Jig. The jig is designed to simplify mortise lockset installations on wood doors. It is a rather new product, so my normal deadline was shortened by an odd series of events. The annual ALOA convention/ trade show and my article deadline were in conflict. The tool was being shipped to me the week before the convention and I had to have it back to A-1 in time for the trade show.

The adventure kind of went like this. The jig was quick shipped to me and I received it on the Monday before the ALOA convention. I was so busy running service calls that day, that I didn't even have a chance to open the package. First thing Tuesday morning,

I opened the box and pulled out the tool and instructions. I was in such a rush, I just barely skimmed through the instructions. Fortunately for me, the jig is fairly easy to set up and use.

I had a Marks lever handle mortise lockset to install with the jig, but on such short notice, I had no prospect for a door into which to install it. I had to use a lock mount with a hole already in it, so you're going to have to use your imagination and pretend that hole isn't there. Anyway, I figured out the jig. Working around service calls, I managed to complete the installation (while photographing it) by 10 P.M.

I still had to have the pictures developed, so Wednesday morning I took the film to a one hour photo place. After picking up my photographs and confirming that everything came out clearly, I proceeded to pack up the tool for overnight delivery back to A-1.

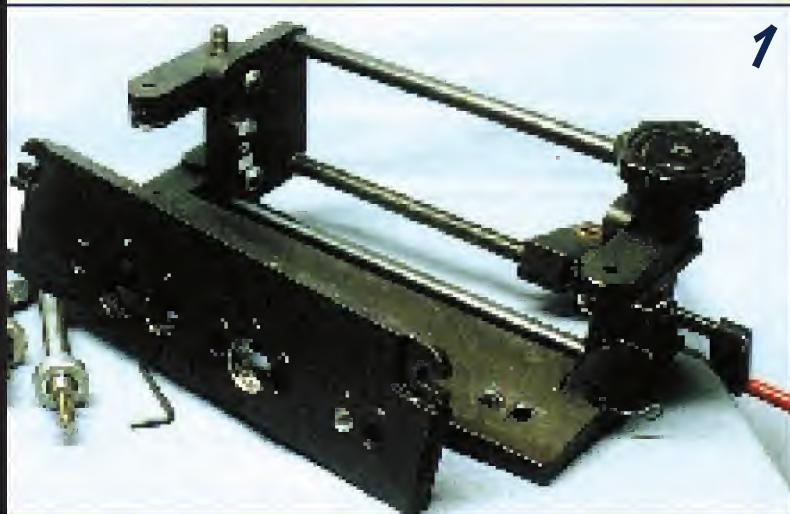
Hold on a second, let me catch my breath. And I still had to write the

article. That part didn't take place until after I returned from the ALOA convention. The photos waited patiently for me until I could find the time to write, which happened to be just a couple of days before the article deadline. And, no, I'm not a stranger to cutting it this close. Now let's get down to the jig and installation.

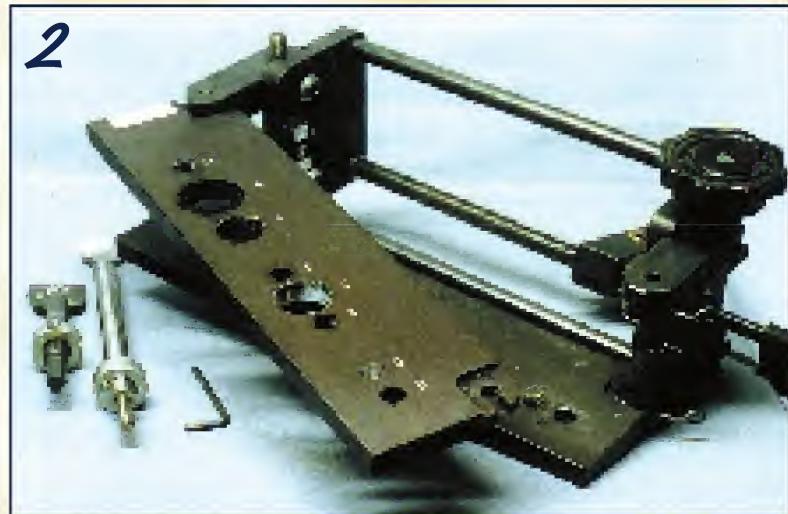
A-1 Mortise and Crosshole Jig M-100

Photograph 1, shows the main components for the M-100 Jig. The jig is self-centering and can clamp onto doors with thickness ranging from 1" to 2-1/2". With a pair of backset toggle bars, you can choose from three different backsets: 2-3/4", 2-1/2", and 2-3/8".

A variety of optional side plates are available to use in conjunction with different brand mortise lock-sets. I'm not sure how many different types of side plates are currently available. Those that aren't currently available should eventually show up if they are

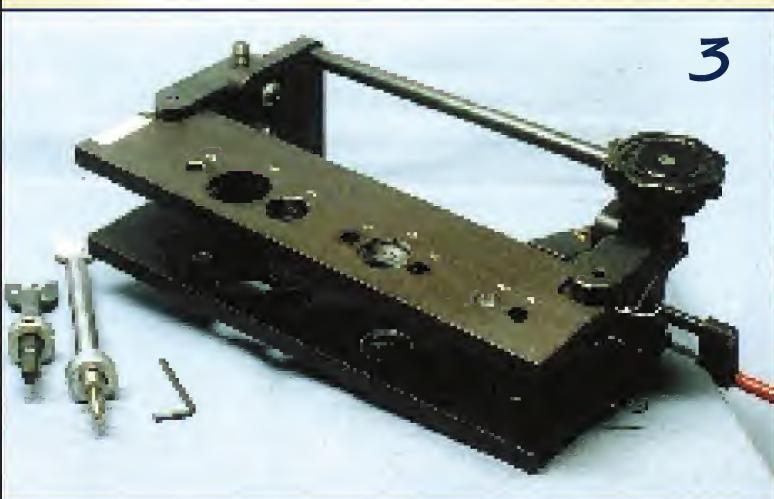


1

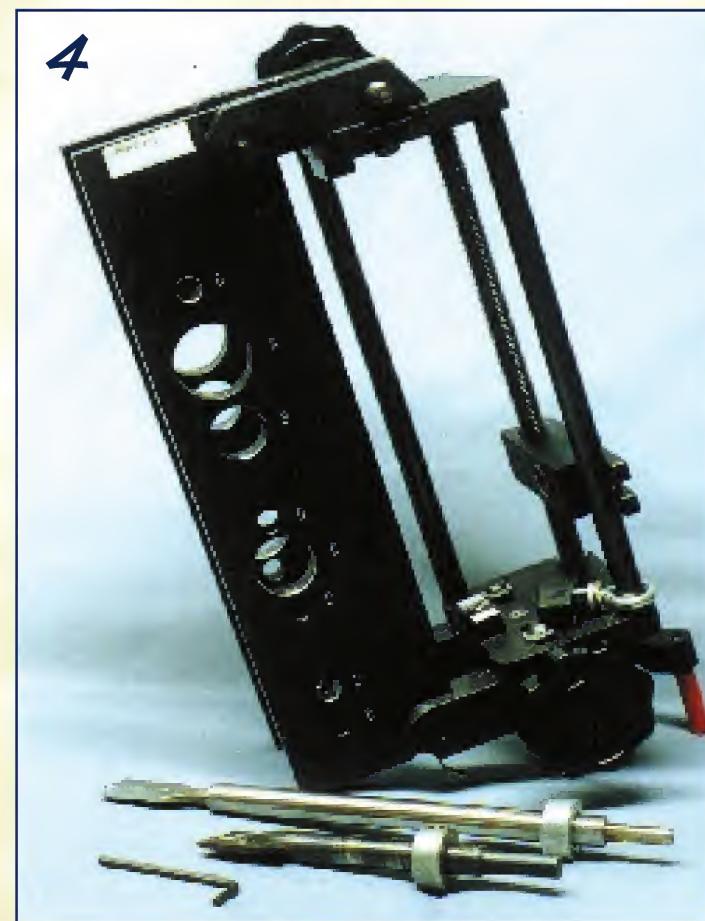


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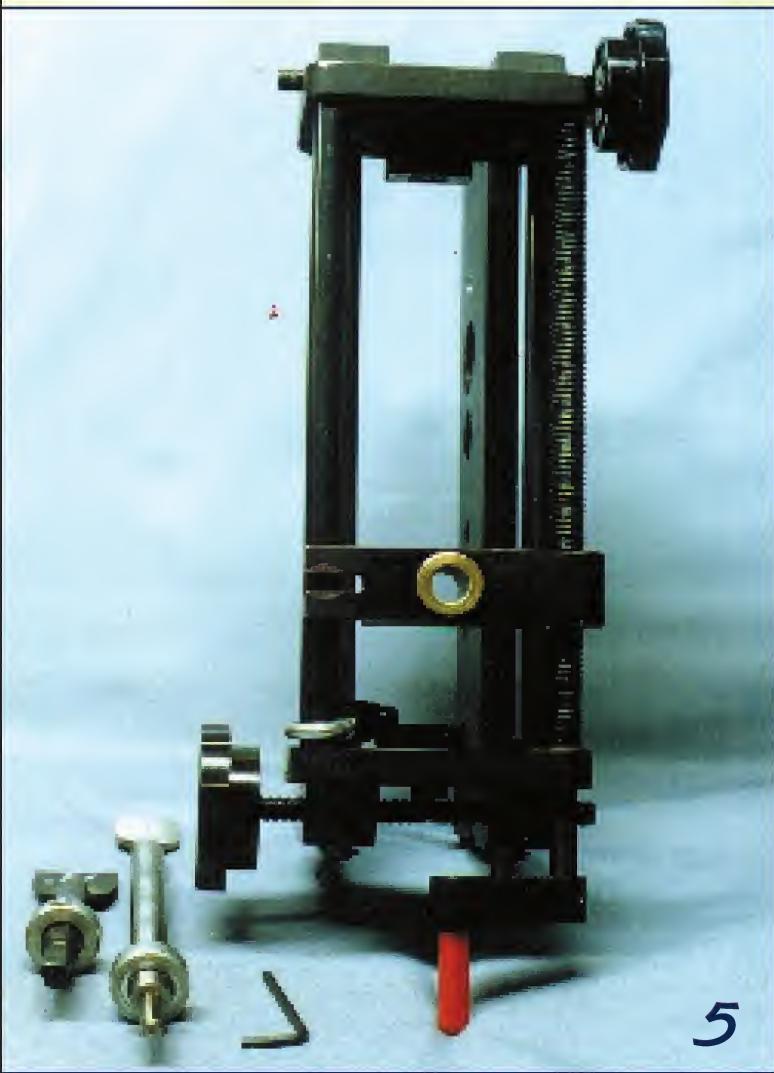
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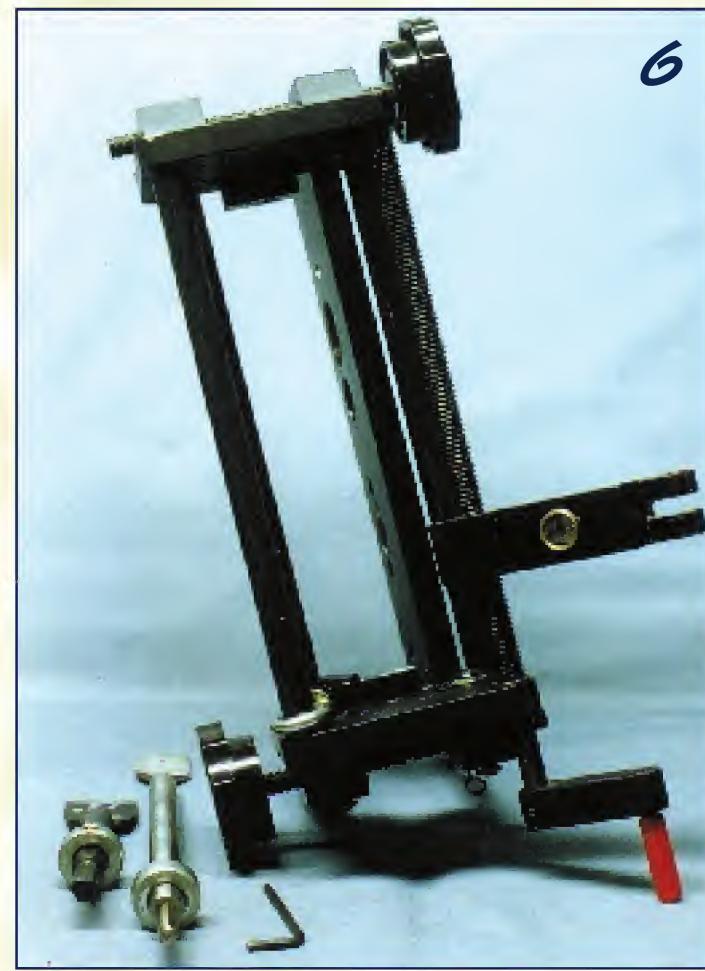
4



5



6



for common mortise locksets, or if there is sufficient demand. Each set of two side plates easily clip onto the jig to create the varied patterns of crossholes by position and hole diameter.

One of the two side plates is already attached in Photograph 1, while the other is ready to attach. If you look at the wide front surface of the unattached side plate, among the holes you will see is one identified as "C." This crosshole is for the knob or lever handle for the mortise lockset. If you look at the narrow side surface of the plate you will see an etched line

directly in line with the center of that hole. When you choose the height you want for the location of the door knob or lever handle, you can align that mark with that dimension. Standard is about 36" above the finished floor.

That second side plate is being attached in Photograph 2. A slot in the top corner of the side plate hooks around a fixed pin. With the plate hooked at the top, the bottom portion of the plate is pushed into place until it comes to catch onto a spring loaded wire at the bottom, shown in Photograph 3. With both side plates attached, the backset of the crossholes should match the backset indicated by the two backset toggle bars.

In Photograph 4, you can see a white label at the top of the side plate with the name "Marks." I believe that these side plates were made at the last minute to use with the lock that I was installing. These prototypes were not of the standard hardness to reduce abrasion from drill bits or hole saws that went through the guide holes. All production model side plates will be hard coat anodized with a Rockwell hardness rating of about C70.



Just below the jig are two spade style drill bits for use in mortising inward from the edge of the door. An Allen wrench is included to set the stops which control how deep the drill will go into the edge of the door.

Photograph 5, shows a side view of the jig. The drill bit guide can be seen about one third the way up from the bottom of the jig. The pressed-in bushing in the middle of the guide keeps the shafts of the drill bits free from wobble as the bit goes in and out through the bushing. The vertical threaded rod to the right positions the drill bit guide with the

turning of the (red handled) crank at the bottom. The guide flips out in Photograph 6, to allow easy attachment of the drill bits.

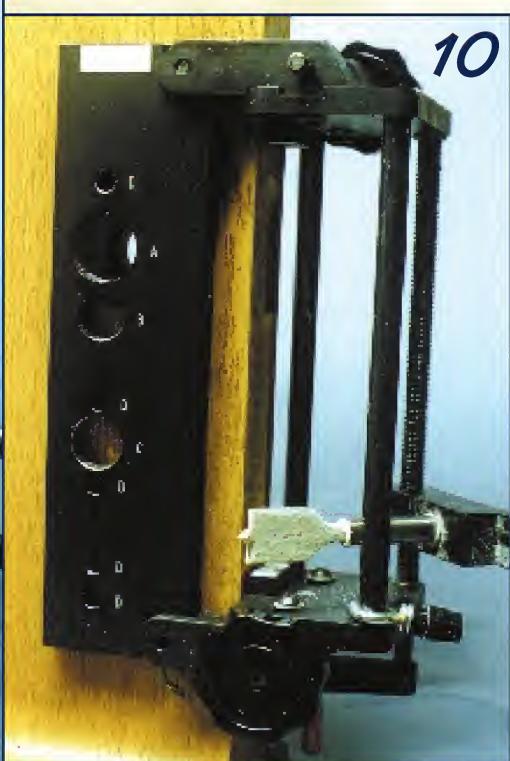
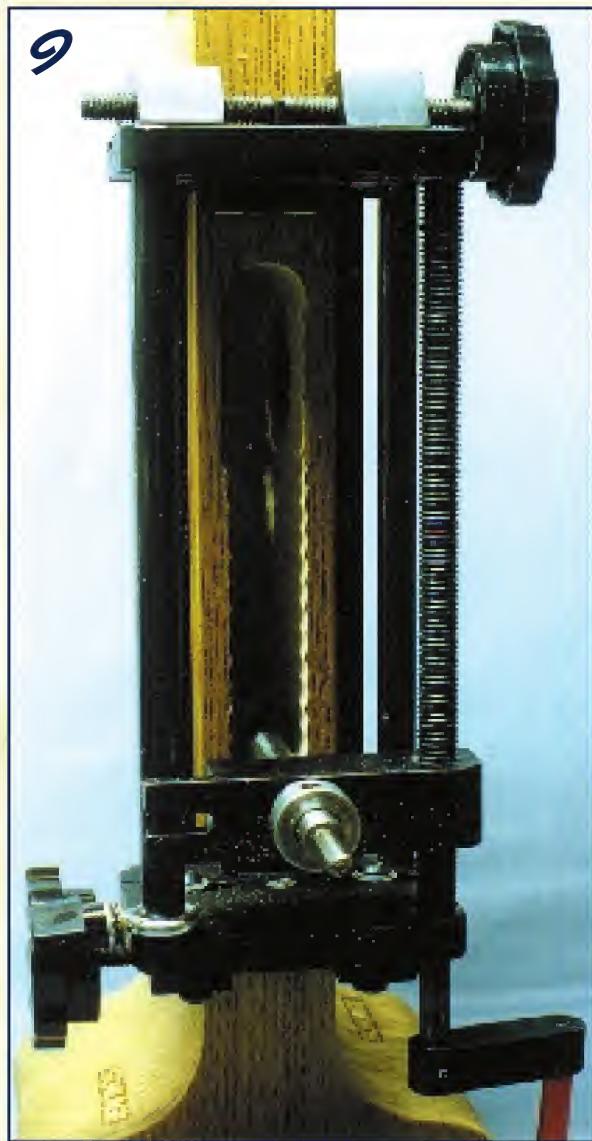
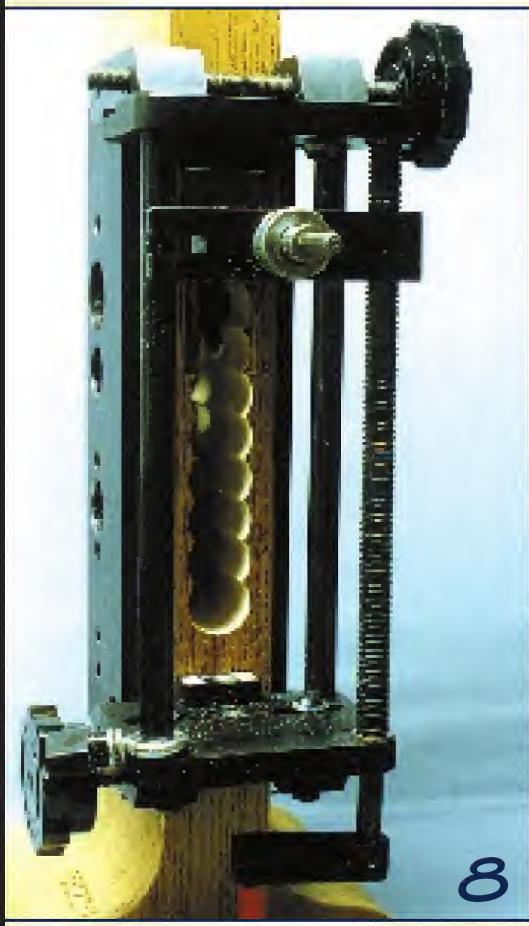
Pressed for time, I did the installation without fully reading the instructions for the jig. I know that's a bad habit for a lot of locksmiths, and sometimes we get ourselves into trouble not reading instructions. Fortunately, A-1 designed a simple to use tool, so things worked out okay.

I will go through the steps that I took for the installation. I didn't

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follow the instructions to the letter, but (as all good disclaimers do) I will suggest that you read the instructions thoroughly and follow them closely.

The jig is shown clamped onto the lock mount in Photograph 7. If you are mounting the jig on a wooden door for mortising, you would want to position it so the centerline for the crosshole for the knob or lever handle is at the correct height. The first goal in the installation is to mortise a pocket into the edge of the door to fit the lock case of the mortise lockset. A 1" spade bit is designed for that mortising operation. You should mark an upper and lower limit, so that you don't oversize the pocket and not leave enough material for the mounting screws to hold the lock case inside the mortise opening.

The depth stop for the spade bit must first be removed before the shaft of the bit can be slipped into the bushing of the guide. Once the shaft is inserted into the bushing, the stop can be reattached. The stop should be positioned so that the 1" bit will go deep enough into the door to allow insertion of the lock case. Once the stop is in position, tighten the set screw with the Allen wrench. The drill bit guide will pivot to allow enough operating room to work with the spade bit. You can then clamp the bit into your drill's chuck to start the drilling.

You will want to start at either the top or bottom, and reposition the guide vertically to cut out the full height of the pocket. If you look back at Photograph 7, you will notice that this lock mount had been previously prepped for a cylindrical lockset. The visible edge bore hole will fade into the series of holes that I will be drilling for the mortise lockset, but the existing 2-1/8" diameter cross bore hole will tend to stick out like a sore thumb. As I mentioned earlier, you'll have to exercise your imagination later and pretend you don't see it.

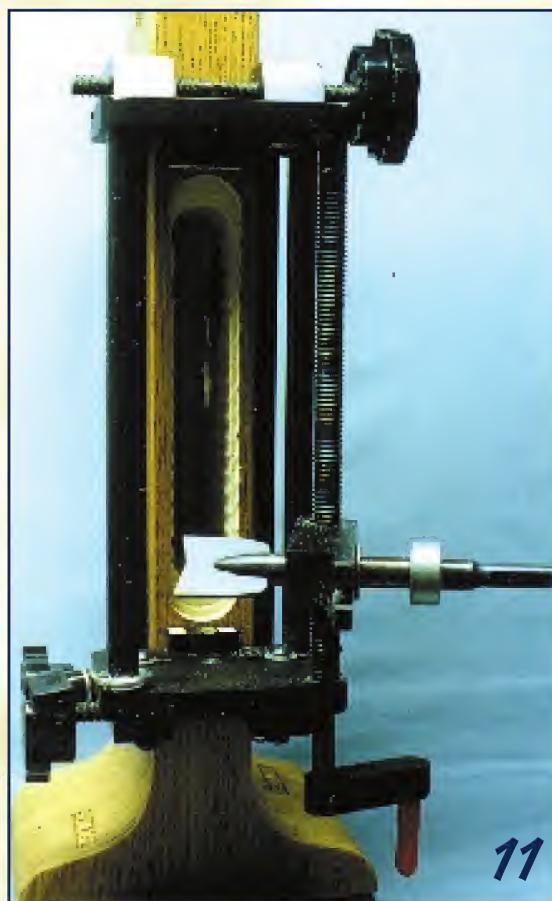
There are two vertical rods that the drill bit guide will follow. The rod on the right is threaded, and the motion of the crank will position the drill bit guide to complete the mortising process. The guide is physically attached to that rod and pivots on it. At the left is another vertical rod. When the drill bit guide is pushed up against the surface of that rod, you can be sure that your drill is going straight in. At the bottom of the rod, you can see something that looks like an eye bolt with a knob attached. This is the tightening knob. It is a part that I noticed but didn't realize what it was for until I had already completed the installation. I will explain its purpose shortly.

I started drilling at the bottom and worked my way up. I drilled the bottom hole as far as the stop would let me, and then I backed the drill bit out of the hole. Because of the 1" size of the spade bit and the distance moved per crank rotation, the elevating crank would normally be rotated 8 to 9 turns to position the drill bit for the next hole. The process of drilling to depth and repositioning would be repeated until you reached the top limit of the mortised opening in the edge of the door, shown in Photograph 8.

Going back to Photograph 8, the edge opening looks like a bunch of interconnected circles. That's not quite the shape we're hoping for at the end. I then adjusted the crank, positioning the bit to clean out the narrow pointed parts of the mortise opening. After drilling one hole to clean out the raised surfaces, I proceeded to repeat the task going downward with identical position spacing of 8 to 9 turns.

The second run through cleaned up all the narrow spots, leaving a much cleaner mortise opening shown in Photograph 9. Photograph 10, shows the pivoting action of the drill bit guide with the bit attached. I guess now is a good time to explain the tightening knob.

While drilling, I felt the tendency for the drill bit to pivot outward. The tightening knob, when used properly, would lock the drill guide from pivoting out and keep the drill guide straight. If you are careful, you can get good results without the tightening knob, but I wouldn't recommend it.



11



12

After mortising for the lock case, you need to do the shallow mortising required for the lock face plate pocket. Photograph 11, shows the 1-1/4" spade bit inside the bushing of the drill bit guide. The stop has to be set properly to create the proper depth and then a similar drilling action is repeated. Because of the larger drill hole pattern generated, the elevating crank is rotated eleven times between each drilled hole. Again you should have the top and bottom limits marked, so as not to make the pocket oversized.

After going from bottom to top, I had a similar condition with narrow spots between the overlapping circles. I repositioned the crank to clean up the uppermost narrow spot and then repeated the crank spacing of eleven turns going back down. That caught the narrow spots between all the wider circles (for mortising the face plate pocket) and left a relatively smooth even surface on both sides. Both mortising actions have been completed in Photograph 11.

After mortising the edge, I drilled the crossholes with hole saws and standard drill bits. I didn't photograph that particular step, but if you look back at Photograph 10, you can see the identified hole positions. The view

shown in Photograph 10, would otherwise be the inside view of the door. On the inside, a number of holes are drilled. If you look at the side plate, you will see five different holes identified as "D." These are for 3/8" through holes to accommodate posts and bolts on the inner and outer trim plates which fasten together through those holes. Only three of the five holes marked "D" were drilled.

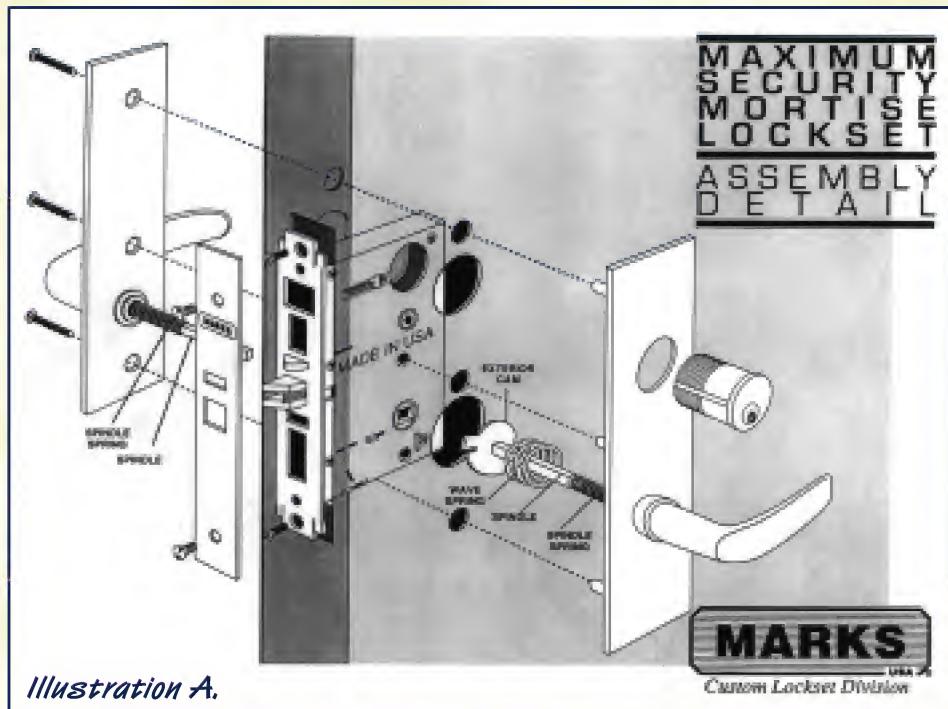
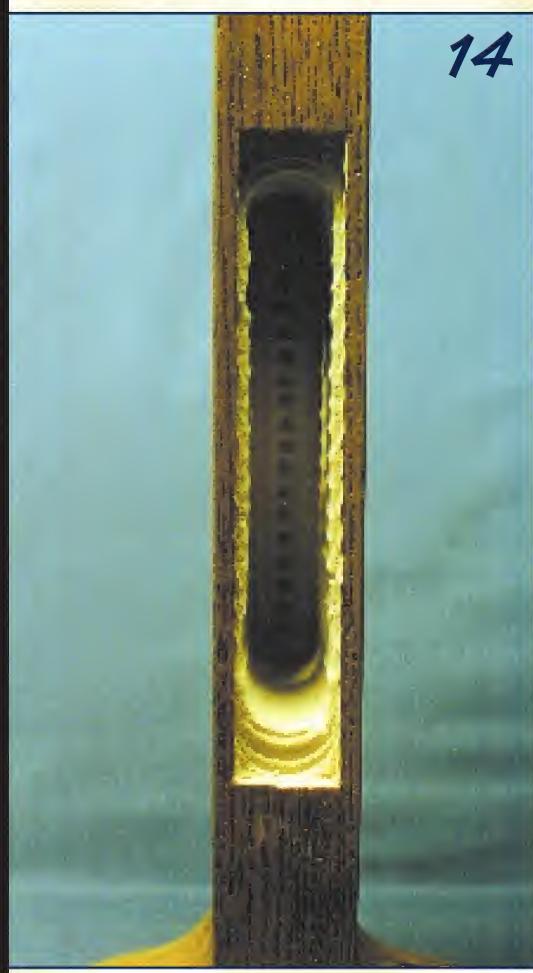
With a 1" diameter hole saw, I drilled the hole identified as "C." That was the inside knob hole. Photograph 12, shows what would otherwise be the inside door surface. This is where you will need to use your imagination a bit. I only drilled four holes from this side, but you see five. The large 2-1/8" diameter hole (second hole from the top and slightly off center) was already in this previously prepped lock mount. If the surface would have been solid, that hole would not be there. In other words, for purposes of demonstration only, ignore it.

Photograph 13, shows the other side (front side of the door) with a slightly different pattern of holes. You will need to use your imagination a bit on this side too. Like the other side, the three of five holes marked "D"

Continued on page 66

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Continued from page 63



were drilled all the way through. Notice, though, that only two of the $3/8$ " diameter through holes are visible on this side. On the inside, a $3/8$ " hole was just above the 1 " diameter knob hole. The knob hole on this side is $2-1/8$ ", which slightly overlapped the $3/8$ " hole (which is why it is not visible).

If you look back at Photograph 11, you may realize that there are no $2-1/8$ " diameter holes anywhere on the side plates. An explanation is in order here. The installation instructions for the Marks mortise

lockset call for a 2 " diameter knob hole on the outside (with the previously mentioned 1 " knob hole on the inside). Since the makers of the jig (A-1) can't know which side plate is inside and which is outside, it makes sense that the knob holes for "C" both be 1 ". When I used the 1 " guide hole for the outside, I only used my 1 " hole saw far enough to generate a pilot hole.

Once I had removed the jig from the door, I used my $2-1/8$ " diameter hole saw (I didn't have the required

Continued on page 71

Continued from page 66

2" hole saw, but 1/8" shouldn't make a difference) and made use of the pilot hole to cut the much larger required knob hole from the outside surface. Looking back at Photograph 11, again, take note of the hole labeled "A." That is a 1-1/4" diameter mortise cylinder hole. Returning to Photograph 14, you will notice that there is not a 1-1/4" hole in that general location for the outside surface of the door. Again, we are dealing with the gremlin of the already prepped lock mount. That 2-1/8" diameter off center hole overlaps where the 1-1/4" hole would otherwise be. This is another call for using your imagination. If I would have had a solid surface to work with, I would have drilled a 1-1/4" hole at location "A."

Photograph 14, shows a clear view of the mortised pocket in the edge of the door. After removing the jig, I used a chisel to square off the round corners left by the 1-1/4" spade bit. The preparation was complete and the lock could now be assembled.

16

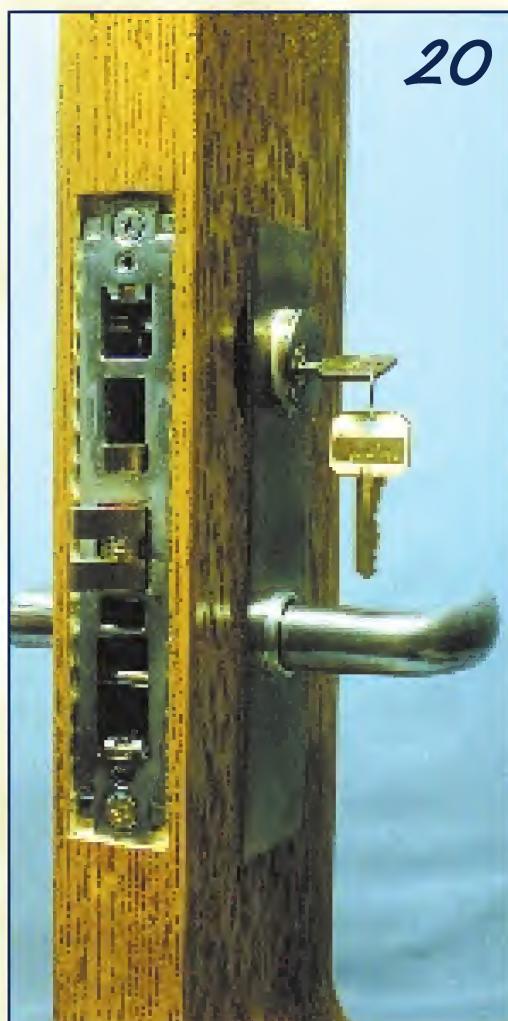
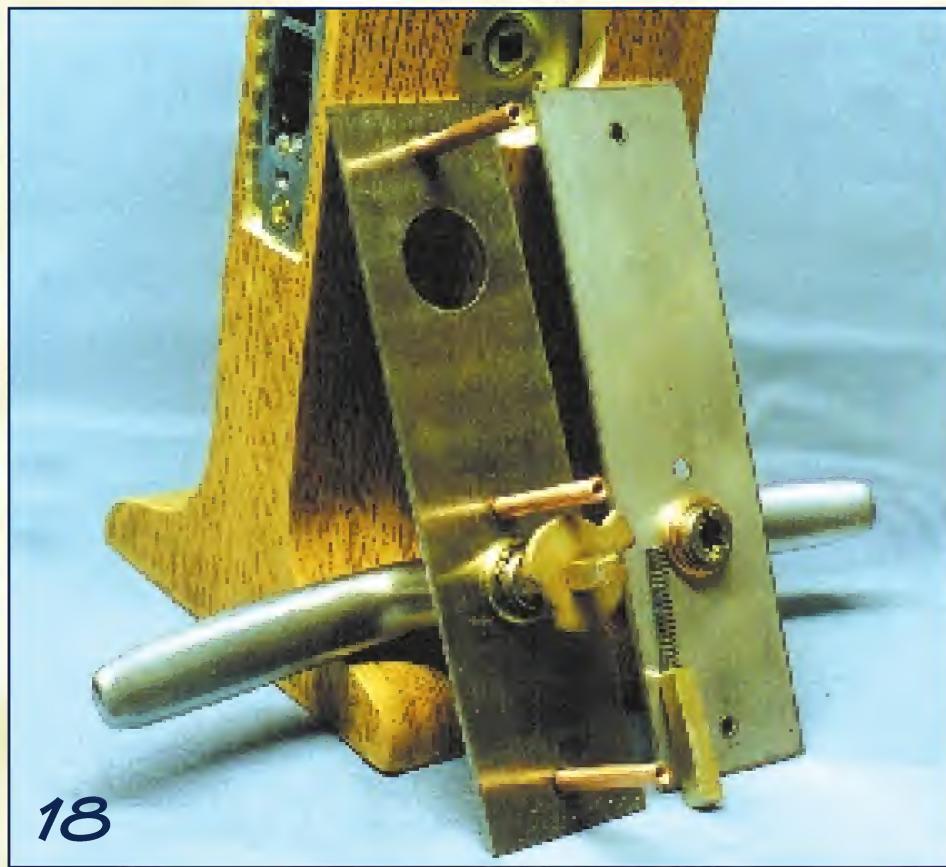


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Assembling the Marks Mortise Lockset

The parts for the Marks mortise lockset are shown in Photograph 15. Those parts include the inner and outer lever handles and trim. The lockset is right handed, but is field reversible. An exploded view of the lock assembly to follow is shown in Illustration A.

The lock case has been inserted into the mortised cavity in Photograph 16. This is the inside view. I remind you that the large 2-1/8" hole (off center hole, second from the top) should not be there. Just ignore it. All the other holes are correct in size and location. You can see the spindle opening clearly in the center of the 1" diameter knob hole.

The outside view is shown in Photograph 17. You have a similar problem on this side. The 2-1/8" hole (in the same position) on this side doesn't belong here. Unlike the other side, a hole should be there, but it should only be a 1-1/4" hole (and not off center). The other holes are in the correct locations, but the knob hole is a fraction large (2-1/8" instead of the listed 2"). That hole overlaps the location where one of the three 3/8" through holes should have been. You can see the hole in the lock case (just above the square



spindle opening) where the separate hole would otherwise have been.

Photograph 18, shows the inner and outer trim plates (with lever handles). The square spindles assembled on each side are spring loaded. The outside trim already has the spring and spindle inserted with the exterior cam slipped over the spindle. The spring and spindle for the inside plate are not yet assembled, but instead leaning against the inner trim plate.

The inside and outside trim have been assembled in Photograph 19. The thru-posts come in through the outside surface and the thru-bolts from the inside have been partially tightened. After tightening the bolts, the mortise cylinder was threaded into place in Photograph 20. With the face plate attached in Photograph 21, the installation is complete.

Final Comments

I think that the fact I was able to use the A-1 jig without a lot of time to check out the instructions shows that it is fairly simple to use. Although it would have been a bit easier if I had fully read the instructions. I'd recommend anyone using the tool read all the instructions first, just to avoid

missing some important pieces of information. I also highly recommend comparing the paper template (that comes with whatever mortise lockset you intend to install) with the hole pattern on the side plates. Some manufacturers make design changes that alter the hole sizes and/or locations with earlier versions of a lock that otherwise look the same.

Like the installation I did with the Marks lock, you may have to deal with holes of different sizes on each side (in the same location in and out). Also, not all holes drilled on one side have a matching hole on the other side. If you have extra holes in unexpected locations, I don't think you'll be able to persuade your customer to imagine the hole isn't there (as I asked you to do for the previously prepped lock mount).

For additional information, you can contact either A-1 or Marks, with the following address and phone information. A-1 Security Mfg. Corp., 3001 West Moore St., Richmond, VA 23230. Phone: 804/359-9003. FAX: 804/359-9415.

Marks USA, 5300 New Horizons Blvd., Amityville, NY 11701. Phone: 516/225-5400. FAX: 516/225-6136.

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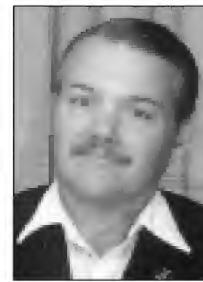
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BEGINNER'S CORNER

MacLock 1500



by
Jim
Langston

I would like to show you a new lock that is on the market which offers a different concept in deadlocking. It is called the MacLock 1500 Blade Lock (see Photograph 1). It usually grabs people right off when people see it and work it. This lock is used on wood doors and metal covered doors in homes and businesses. It consists of the cover plate, MacLock locking blade and the strike plate.

The blade lock installed on wood doors makes it virtually impossible for the door to be kicked in or busted with a battering ram. Nearly two thirds of all break-ins are made through entry doors. Deadbolts have proven ineffective in preventing forced entry because they provide only one inch of surface contact with door frames, creating an inherent weak point which is dramatically revealed when a door is kicked or pried.

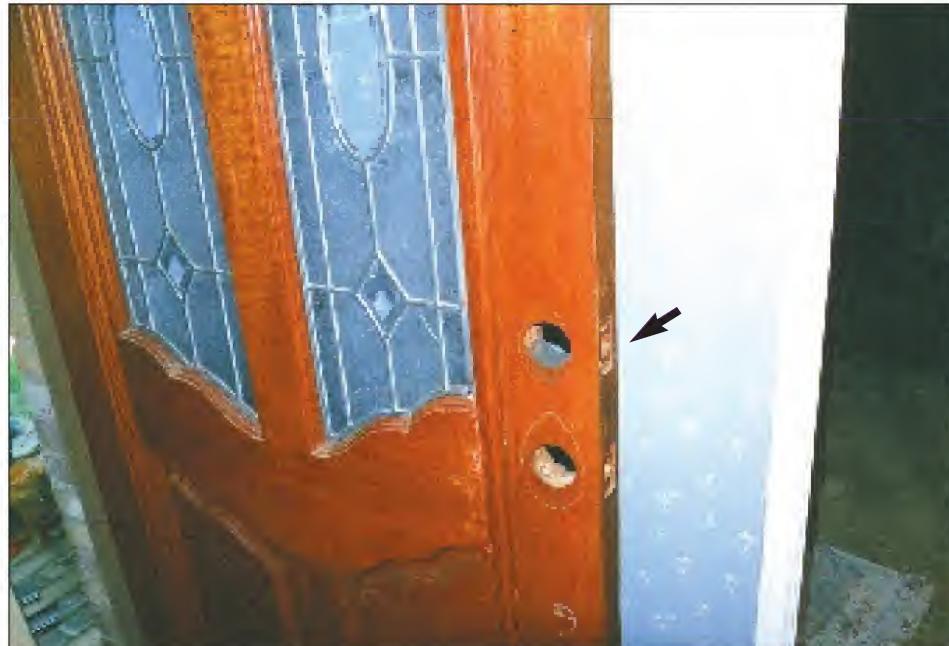
The blade lock is 28 inches long, replacing a deadbolts single stress point with 28 inches of blade which transfers stress to a steel strike plates mounted in the jamb. Impacts are dispersed across the 28 inches virtually eliminating door jamb and lock failure so common with deadbolts.

The MacLock 1500 surpassed a Grade 1 test of 2 blows from a 99.2 pound bullet swung at the door in a 45-1/2 inch arc, which equates to 150 foot pounds of force. In fact, it stood up to 10 additional blows. On the 13th Grade 1 blow, the door face separated from the rails and stiles, and the door opened. Incredibly, neither the MacLock 1500 nor its strike were damaged. It has not been determined how much force is required to cause failure of the MacLock 1500.

The MacLock can be installed on doors which already has an existing deadlock installed. It comes in both single cylinder and double cylinder versions. Also, the MacLock can be keyed to different keys by



1. The components of MacLock 1500 Blade Lock.



2. Plug the deadlock's bolt hole with a 1" wooden dowel rod which is furnished with the MacLock.

using composite cylinders. With the door closed, the MacLock blade lock cannot be distinguished from a regular deadlock.

Installation of the MacLock 1500 is accomplished with the use of a special jig. The door and frame is routed for the lock channel and strike. Only one standard bore is needed. So you can understand how it mounts on the

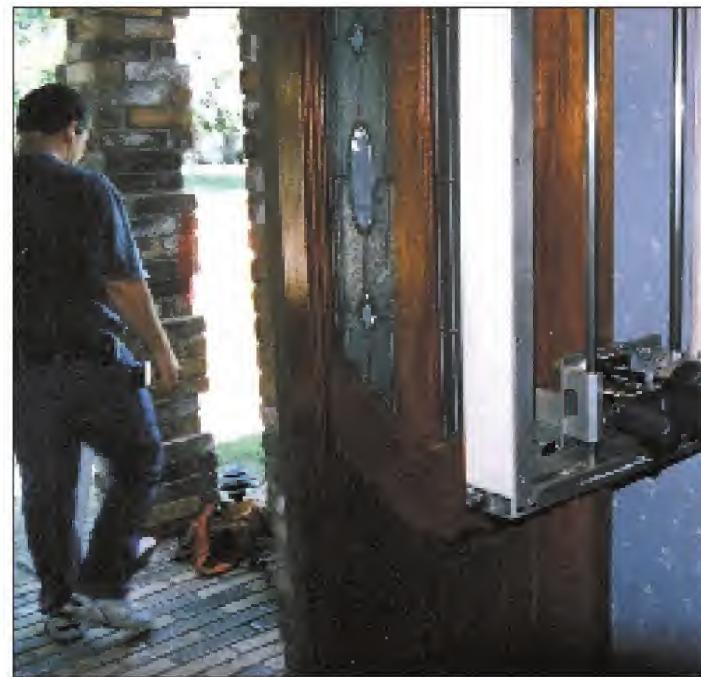
door, the different steps of installation are listed below.

1. Remove the existing deadlock and passage/ entrance lock.

2. Plug the deadlock's bolt hole with a 1" wooden dowel rod which is furnished with the MacLock. To do this, it is recommended that carpenter's glue is placed on the dowel rod and then hammer in the



3. Mount the router jig on the door as shown.



4. The plunge router in the jig.

bolt hole until it is flush with the edge of the door (see Photograph 2).

3. Mount the router jig on the door as shown in Photograph 3.

4. After inserting the router bits in the router, place the plunge router in the jig as in Photograph 4. Once the router is attached to the jig, line up the router with the center of the



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5. The router and jig both have a depth guide preventing you from routing too deep.



6. Install the alignment tool in the door, securing it with screws so that it will not move.

going to the bottom. Each pass should not be more than a quarter of an inch



7. The alignment tool, router, bits and turn key is shown.



8. Install the locking blade in the door and the cover plate.

door, making sure that the bit is centered both at the top and the bottom of the door.

5. Now you are ready to make the first pass with the router (see Photograph 5). The router and jig both have a depth guide preventing you from routing too deep. You should make several passes with the router, starting from the top and

deep. Keep making passes until you have the full 2-3/8" backset. Once this is done, the last pass of the router will have made the recessed cut for the cover plate. On doors that have a bevel, you might have to go a small fraction of an inch deeper so that the cover plate will mount flush.

6. Install the alignment tool — which comes with the installation jig — in the door, securing it with screws so that it will not move (see Photograph 6). This tool looks just like the MacLock lock blade except on the edge of the alignment tool there are four marking indexes.

NOTE: The alignment tool, router, bits and turn key is shown in Photograph 7. One bit is the plunge router bit, the other is the strike bit. Also in the photograph is the turning key used to mark the door.

7. Close the door and insert the turning key which comes with the MacLock into the jig. Turn the key until the marking blade contacts the door jamb. Operate the blade 2 to 3 times to insure alignment marks are visible.

8. Install the locking blade in the



9. Center the jig on the top and bottom marks that the alignment tool made when the door was closed.

Continued from page 76



10. Starting at the top, plunge the router and make a pass.

door and the cover plate as in Photograph 8.

9. The next step is to route the strike. Place the jig on the door jamb as seen in Photograph 9.

10. Center the jig on the top and bottom marks that the alignment tool made when the door was closed. Once this is done, you are ready to route the strike. You must set the router depths to $7/16$ ".

WARNING: Make sure there are no nails in the door jamb where the strike will go. This is done by checking the area with a stud and/or nail finder.

11. Starting at the top, plunge the router and make a pass. Then set the router and make a final pass at $7/16$ ". In this final pass, the router blade is designed to counter sink the strike (see Photograph 10).

12. Now install the strike the plate (see Photograph 11). The completed installation can be seen in Photograph 12.



11. Install the strike the plate.

13. Photograph 13, is the finished product.

Now you know what is basically involved in installing the MacLock. The blade locking system is a very good locking system because it covers more area than a standard 1" bolt does.

For more information on MacLock, you may contact them at this toll free number: 888-622-5625.



12. Completed installation of the strike.



13. The finished installation of the MacLock.

Points to Ponder

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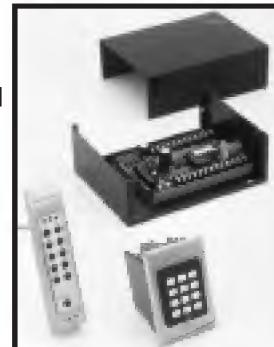
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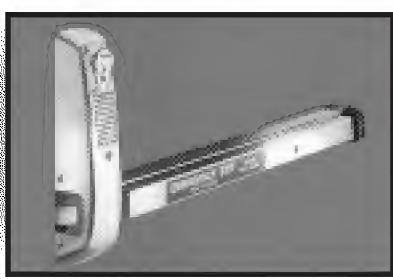
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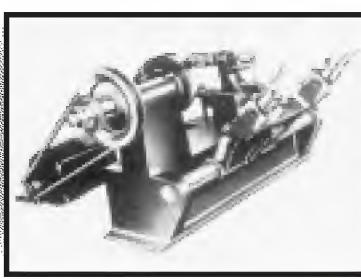
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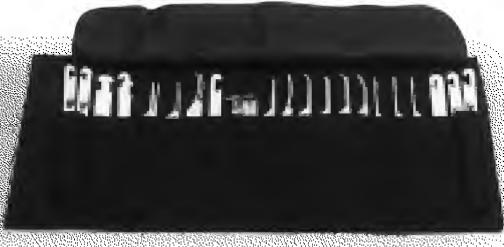
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- All Lock Ford or GM Kwikit
- Aero Lock Tryout Key Set
- Strattec Racing Jacket
- HPC Pistol Pick™
- Sargent And Greenleaf 4400 Series Safe Deposit Box Lock
- A-1 Security Products
- Silca Key Blanks (100 Blanks)

- Pro Lock Pk 15 Professional Lock Pick Set
- Tech Train Training Video
- Sieveking Products Gm E-Z Wheel Puller
- Major Manufacturing Products
- The Sieveking Auto Key Guide
- Jake's Grab Bag Prizes!

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How To Enter

Simply send in your tip about how to do any aspect of locksmithing. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Write your tip down and send it to: Jake J akubowski, Technitips Editor, **The National Locksmith**, 1533 Burgundy Parkway, Streamwood, IL 60107 or send your tips via E-mail to: Natlock@aol.com

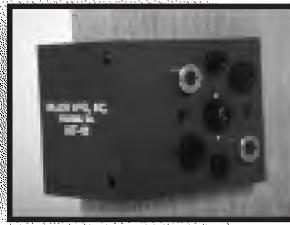
Every Tip Published Wins

If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter. By entering, your chances are greater than ever that you will win one of the prizes listed. This is the biggest Technitips prize year ever. Wouldn't you like to be a prize-winner in 1997? If so, enter today!

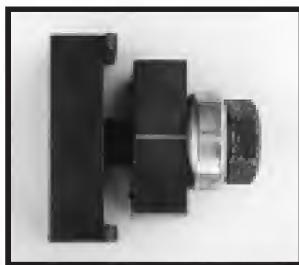
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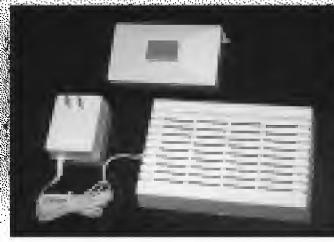
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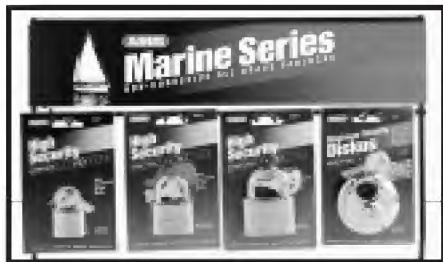
FOURTEENTH PRIZE: SIEVEKING PRODUCTS SQUEEZE PLAY



FIFTEENTH PRIZE: RODAN'S AV TX200, RX200, INDOOR WIRELESS TRANSMITTER AND RECEIVER



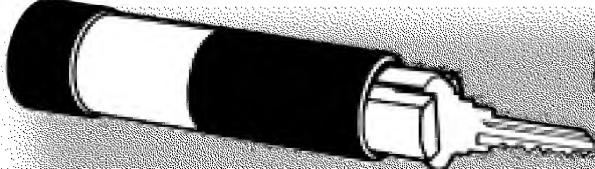
SIXTEENTH PRIZE: ABUS PADLOCK'S MARINE PADLOCK DISPLAY



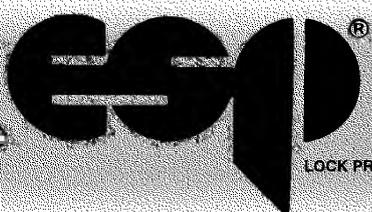
SEVENTEENTH PRIZE: BAXTER J V-1 and J V-5 CODE BOOKS



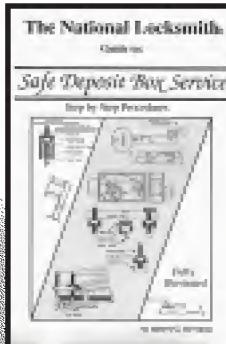
EIGHTEENTH PRIZE: FRAMON IMPRESSIONING HANDLE



NINETEENTH PRIZE: ESP PRODUCTS SAMPLER FROM ESP



TWENTIETH PRIZE: SIEVEKING SAFE DEPOSIT BOOK





**ALL-LOCK
KWIKIT WINNER:
Repairing Yale
Panic Devices**

This tip involves the repair and modification of Yale 7000/ 7001/ 7200 panic exit devices.

One of my customers has two buildings that are chock full of these devices and the dogging hubs on the units strip out from repeated use. Maintenance on these bars over the years, have used up all the spare hubs that I could find, and I had to figure out a way of keeping these bars in service since their replacement with new hardware would be extremely expensive for the customer.



Photograph 1.



Photograph 2.



Photograph 3.



Photograph 4.

A Few Words From Jake...

By the time you read this, there will be less than ninety days left to 1997! That means it will soon be time for me to choose the winners of the biggest, baddest, most boadacious year-end prize list ever in The National Locksmith's Technitip Contest! I mean to tell you there are going to be TWENTY-ONE(!) mighty happy locksmiths out there when I publish the year-end winners list in January of 1998.



**by Jake
Jakubowski**

Now, if you haven't yet sent in that tip you've been thinking about sending me all this year, you best get it done if you want a chance at winning one of the big year-end prizes for 1997! Yes, you still have time, but you can't lollygag (That was one of grandma's favorite words). If you're going to do it...do it right now!

Speaking of great year-end prizes, keep your eyes on this column for what's going to happen in 1998! Not only are the majority of this year's prize contributors going to continue their support for next year, but the year-end prize list will go from twenty-one, to TWENTY-FOUR! And, for right now, that's all I'm going to say about that!

Now, get busy writing! Y'all heah me now?

The dogging hub appears to be a soft cast material like Zamack and after repeated "doggings," the center of the hub wears out and will not allow the dogging key to operate the hub. To prevent this from happening, and to effect a repair that will keep the existing bars in service, here is the cost-effective alternative to complete replacement of the hardware I hit upon.

In Photograph 1, I have inserted a stripped hub in my bench vise after drilling out the center to accept a 5/ 16" x 18 bottoming tap. The photograph shows me tapping the hub to accept a 5/ 16" x 18 x 1/ 2" hardened Allen set screw.

Photograph 2, shows the hub after it was tapped and the hole beveled to guide the Allen wrench into the set screw.

Photograph 3, shows the Allen screw being inserted into the hub. All of the Allen screws were installed with a generous "dab" of "red" Locktite to keep them from backing out of the hubs.

Photograph 4, shows the completely repaired hub ready for re-installation in the panic device.

I used 5/ 16" Allen screws because that size uses a 5/ 32" Allen wrench which is the same size wrench used to dog the hardware throughout the complex. Most of the re-built hubs that we have fabricated have been in use for over a year now without any signs of failing. In fact, the several that

we have torn down to inspect for premature wear have shown no wear whatsoever.

**Solly Rosen
Washington**



**AERO LOCK TRY-OUT
KEY SET WINNER:
Vehicle Check List**

I'm sure that most of your readers have had the frustrating experience of a customer claiming that you "did something" to their vehicle (like knocking the front-end out of alignment) when you generated a lost key.

<p>Tom's Mobile Locksmith Service 1510 Lingo St. Cincinnati, Ohio 45223 681-5113</p> <p>STEERING COLUMN CHECK LIST</p>		
<p>1. Any Rips or stains on seat or surrounding area? NO <input type="checkbox"/> YES <input type="checkbox"/> NA <input type="checkbox"/> 2. Any cracks in or around shrouds? NO <input type="checkbox"/> YES <input type="checkbox"/> NA <input type="checkbox"/> 3. Check SRS !!! NO <input type="checkbox"/> YES <input type="checkbox"/> 4. Any missing screws or broken retainers on horn Pad? NO <input type="checkbox"/> YES <input type="checkbox"/> 5. Does the horn work? NO <input type="checkbox"/> YES <input type="checkbox"/> 6. Do the emergency flashers work properly? NO <input type="checkbox"/> YES <input type="checkbox"/> 7. Check turn signals if you have ignition key? NO <input type="checkbox"/> YES <input type="checkbox"/> 8. Check Buzzer switch. Insert key blank into lock open door. NO <input type="checkbox"/> YES <input type="checkbox"/> 9. Check tilt. Pull hard on wheel if it slips there is a problem. NO <input type="checkbox"/> YES <input type="checkbox"/> 10. Is the upper bowl loose? Saginaw type only NO <input type="checkbox"/> YES <input type="checkbox"/> NA <input type="checkbox"/> 11. Check raids for anti theft such as Delco Loc. NO <input type="checkbox"/> YES <input type="checkbox"/> NA <input type="checkbox"/> 12. Is snap ring on top of Steering shaft? NO <input type="checkbox"/> YES <input type="checkbox"/> 13. Is top of Steering shaft mushroomed from hammer blows? NO <input type="checkbox"/> YES <input type="checkbox"/> 14. Does upper shaft appear to drop into column when the snap ring is removed? If so the nylon shear pins may be broken! Saginaw type only. NO <input type="checkbox"/> YES <input type="checkbox"/> NA <input type="checkbox"/> 15. Check turn signal switch for broken or missing springs and cracks. NO <input type="checkbox"/> YES <input type="checkbox"/> 16. Does ignition lock turn hard? If so it may mean the ignition switch or the rod going to it is damaged. Or other problems. NO <input type="checkbox"/> YES <input type="checkbox"/> DATE <input type="text"/> MODEL <input type="text"/> MAKE <input type="text"/> YEAR <input type="text"/> COLOR <input type="text"/> TAG # <input type="text"/> LOCKSMITH <input type="text"/> Other comments. <input type="text"/> </p>		

Illustration 1.

With auto locks - especially steering column locks - work is becoming more complicated, and the potential for liability ever greater. I have decided to begin using this check list before I start work on any steering column (see Illustration 1). I think it will go a long way to forestalling problems with customers that tend to be unreasonable. Thomas S. Rucker

Ohio



STRATTEC RACING
JACKET WINNER:
**Blazer Door Lock
Removal**

I recently had to key some door cylinders for a 1995 Blazer 1500 Silverado that had been stolen. The door panel has one screw in the arm rest and is held on by ribbed plastic clips. Before removing the door panel, there are two small panels that should be removed first. To remove the one containing the window control, push in from the side and gently pry up at the rear. Remove the electrical plug from the window switch and set the panel aside.

Now remove the larger panel surrounding the door handle and manual lock and power lock switch. This panel is held on by several flat plastic clips. The rear of the panel fits under part of the overall door panel. Gently pull it away from the door by grasping it at the front and the middle and remove it. Disconnect the electrical plug from the power lock switch by lifting the retainers at the top and the bottom of the plug.

At this point you can remove the door panel. Like most GM products, plastic clips are located all around the panel, including two in the small triangular area at the top. At this point STOP! Do not remove the black panel that you have exposed by removing the trim panel. Like other- older - GM products, this panel supports the power lock solenoid, the power window motor and the window mechanism etc.

On the edge of the door, in line with the handle, is a small hex head bolt. It holds the rear end of the handle. Remove it. A second bolt is located behind the hole in the upper rear corner of the inner panel, (where you will see some wires feed through. At this point you may need to push some plastic sheeting out of the way) unscrew it, but do not try to remove it.

Remove the small panel at the bottom edge of the door and remove two of the #27 Torx screws holding the latch in place. Put one hand through the hole and hold the latch in place while you remove the third Torx screw. Let the latch drop slightly (half an inch or so). Now you can pull the handle out of its cavity for servicing. Put the latch back in place and secure it with one of the Torx screws while you are servicing the handle assembly. Replacement is in reverse order.

Raiford Ball, CRL
Tennessee



HPC PISTOL PICK
WINNER:
**Mercedes Door
Lock repair**

A customer brought the driver's side door handle for a 1980 Mercedes 500 SEL into our shop because the lock, a four track, though seemingly intact, had stopped functioning.

The first thing I did was to check the key for wear, and for a seventeen year old key (it was the original) it seemed to be in excellent shape. The next thing to check was the lock itself.

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After removing the two roll pins that held the lock to the handle assembly and sliding the key in and out, I was able to remove the cylinder from the lock housing. The cylinder was in pretty rough shape with two of the whole wafers (positions 3 & 4) so corroded I had to tap them out.

Position five had a split wafer and L5 would not seat all the way when the key was completely inserted. I figured that L5 was the culprit that prevented the lock from turning. When I removed this wafer, I found that the inside bottom portion of the wafer (the part the key rests on) had been completely worn away. Where it was supposed to be squared off, it had become completely rounded from years of use.

Removing all the wafers, and keeping them in careful order, I cleaned up the cylinder and reassembled everything except for the L5 wafer, which I did not have. Not wanting to leave the L5 out just to complete the job, I began looking to see if I could find a replacement. Looking closely at the worn wafer, I realized that it closely resembled the newer Toyota split wafers. It fit perfectly and after several tests, I was convinced that it would make a suitable replacement.

Woodrow L. QuiNones
Oregon



**SARGENT &
GREENLEAF WINNER:
Sentry Opening**

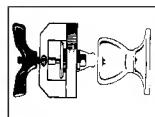
I was recently asked to open a Sentry 1330 fire safe that was set in concrete under a workbench in a basement and was badly rusted. Usually, I can dial these open, but the handle on this safe was so rusted I could not move the bolt to get it against the wheels. Here's how to defeat this situation when the lock mechanism or handle is broken.

Use a 1-1/2" bi-metal bit and drill a hole exactly halfway between the center of the dial and the handle and in line horizontally. Be careful not to drill through the bolt, since this safe drills very easily and fast.

The hole will serve two purposes. It removes the bolt mounting stud closest to the wheels, and gives you access to punch the bolt. As soon as your hole is through and you pull the inner cover out of the way, angle a large punch towards the wheel pack and punch the bolt. It will slip out and over the wheels and retract from the door.

All that's left to do is pull the door open. Or, as in this case, pry the door open. Total time? About five minutes!

Chuck Donnelly
New York



**A-1 SECURITY
PRODUCTS WINNER:
Schlage IC Lock
Removal**

When called to a local mall to rekey two lock cylinders, I found that the locks were Schlage interchangeable core. No problem, right? Until I asked for the control key and was told that they had never had one. Still no problem. All I need is their change key and we're in business. Sorry, it's been misplaced!

Because of the nature of the door, releasing the set screws and removing the cylinders was not an option in this case. So, here's what I came up with:

I used a Schlage control blank and modified it on my key machine as you can see in Illustration 2. I cut off most of the blade, but left the tip to push up the control pin. Note that I also left a part of the head of the blank to act as a handle.



Illustration 2.

I inserted my modified control key until the shoulder bottom out in the cylinder, and using the head of the key as a tension wrench, I was able to pick and remove both cores. After that it was a simple matter to rekey the cylinders, make a new control key and reinstall the cores in the housings.

Harry Parker
California



**SILCA KEY BLANKS
(100) WINNER:
Saving Hole Saws**

When preparing a commercial steel door and frame for a deadbolt installation, we generally use a one inch hole saw for cutting the edge bore and frame strike. However, after drilling several holes the saw naturally becomes dull. Rather than discarding the used hole saw, save it for the mortar filled frame.

Use your new, sharper saw to cut through the frame until you just begin to see mortar in the cut-out. Now

switch your saws and continue cutting without a pilot bit in the old saw. The worn teeth of the old saw will cut nicely through the soft mortar

Of course after several uses, the old saw will become too dull to cut even the mortar. But, you can sharpen it very easily by using a Dremel Tool with a cut-off wheel. Simply cut five or six slots about a half inch deep around the circumference of the saw blade. This creates new, square cornered teeth in the blade and will enable you to use the same blade over and over again until it is completely worn out.

I think that at approximately eight bucks a pop, this is a great way to get extra mileage out of something we'd normally discard.

Tony Fiorini, CRL
Pennsylvania



**PRO-LOK PK 15
PROFESSIONAL PICK
SET WINNER:
Combinations Not A
Constant**

A while back, a Technitip on Sentry safes indicated that if one knew the original combination, or any other combination the safe had been set on, that you could advance all three numbers by ten and you would eventually dial the safe open. I found that on the model #1330, Sentry Value Guard Safe, this is not the case.

Actually only the first 2 numbers advance and they only advance by a factor of seven! The third number remains constant. For instance, if the original combo was 16-84-57, then the combination you might be looking for could be 9-77-57 or 2-70-57, etc. This model has a changeable plate with a hook on it that changes holes instead of a screw.

Richard Garoppo
E-Mail



**TECH-TRAIN TRAINING
VIDEO WINNER:
Rekeying Profile
Cylinders**

Here's a quick way I have found to repin Euro style cylinders without the hassle of trying to use magnetic followers, etc.

First find a piece of spring steel that is just wide enough to slide freely in the bottom of the keyway. Now insert the spring steel into the cylinder until it stops. Bend it 90 degree two times forming a "U" as seen in Illustration 3.

Pick the cylinder and turn it only slightly from center. Insert your new tool

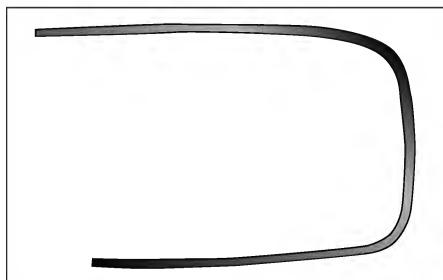
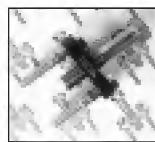


Illustration 3.

in the bottom of the keyway and rotate it until the outer portion of the "U" is over the top of the cylinder and the inner portion is covering the top pins and springs. You may have to adjust the space between the legs of the "U" shaped tool at this point so the outer leg fits snugly against the top of the cylinder.

Use a piece of tape to hold the tool in place on the outside of the cylinder and remove the plug. The tool easily holds the top pins and springs in place and you can rekey the plug as needed.

Jim Elkins
Kuwait



**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
Progressing a Ford
10-Cut**

I have found what I believe to be a quicker and easier way of making a Ford 10-cut ignition key by progression. Instead of cutting all five depths on my code machine, I have narrowed it down to four.

Get your first two ignition cuts (5 & 6) from the door lock. Next use the chart as shown in Illustration 4, and cut all keys with half cuts as are used to make try-out keys. That is: 1 = 1-1/2, 2 = 2-1/2, 3 = 3-1/2, etc.

1st key one side	1st key other side	2nd key one side	2nd key other side
1121	1122	2112	1211
2121	1123	2122	1221
2321	1223	2123	1232
3321	1233	3223	2232
3322	2233	3323	3232

3rd key one side	3rd key other side
3211	2212
3221	3212
3233	3322

Illustration 4.

I find this method preferable to the original progression method which required numerous key blanks to find a working key. George Paxinos
Florida

**MAJ OR MANUFACTURING
PRODUCTS WINNER:
Mortise Adjuster**

After literally working for hours installing a Baldwin Mortise Lock by hand, I purchased a Major Manufacturing Hit-38 Speed Mortiser. With the Speed Mortiser, the drill guide is off center so it will center the bit on either a 1-3/8" door or a 1-3/4" door.

However, my last two jobs were done on custom doors that were 1-7/8" thick. This odd width was accommodated with the HIT-38 by placing a 1/16" shim between the crank side of the HIT-38 and the door

which allowed the drill bit to center on the 1-7/8" door (see Illustration 5).

Also, since I do not have a router and template to mortise the standard 1-1/4" x 8" x 7/32" mortise pocket for the faceplate installation, and doing it with a hammer and chisel is not only time consuming and difficult, I found that by experimenting with different shim sizes, I could move the cutting bit to the HIT-38 to the left or right up to 3/16". This allowed me to mortise a neat, uniform pocket on one side of the faceplate and by reversing the HIT-38, I could neatly mortise the other side.

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Once I had cut both sides of the face plate mortise, it was a simple matter of chiseling out both ends squarely and neatly.

Clamping the drill guide was accomplished by drilling and tapping for a 10-24 clamping screw on the Speed Mortiser Drill Guide (see Illustration 5).

Bud Frazier
North Carolina

[Editor's Note: Bud, never having used Major's HIT-38, I checked with Bill DeForrest, at Major regarding your tip. Bill's response was to suggest that obviously your modification worked for

you, but before utilizing any tool for a purpose for which it was not intended, you should thoroughly test the procedure on scrap material. He also commented that if the door was beveled, you might have a mortise that was deeper on one side than the other. Bill also mentioned that Major is releasing - probably late fall - a HIT-45 that will template Baldwin Mortise locks. The HIT-45 will align cylinder hole, through bolts for the bottom of the handle and also allow routing of the face plate on the same bevel as the door. Bill said: ".... this setup (the HIT-45) makes sense for anyone that install a lot of mortise locks;

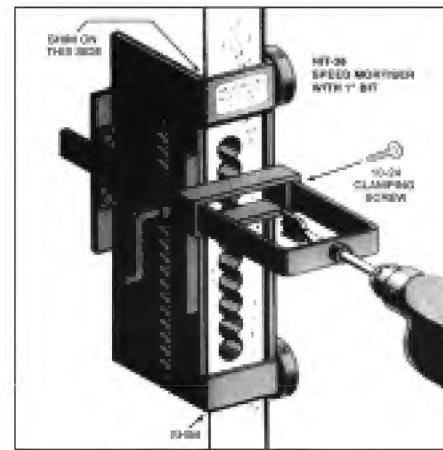


Illustration 5.

including Baldwin." At any rate, Bud, thanks for sharing your tip with us.]

 SLIDE LOCK'S "Z" TOOL OPENING SET WINNER:
Correcting Miscut Cross Bores

On those rare occasions when I happen to miscut a hole for a cross bore, I have found an effective way to repair the damage is to cut two plugs from a 1" x 4" the same size as the hole that I cut. I cut these plugs on my band saw because it has a tilting table and I can taper the inside edge of the plug which allows for a tighter fit. If you do not have a bandsaw, you can use a jigsaw.

Once I have my plugs cut, it is a simple matter of applying glue to the edges and tapping the plugs into the hole until they are aligned with the edges of the hole. While the glue is setting up, I take the miscut down to the local hardware store and have them match the paint color. I've even had some success at matching stains this way although the best match is when the door is painted.

Next, I go back to the customer's home, sand the plug smooth with the door and paint the repaired area. This may seem like a lot of work, but it sure beats the price of a new door. For small dents and nicks, I use automotive body filler which dries quickly and is easy to sand, etc.

Rick Littlejohn
South Carolina

[Editor's Note: Rick, It is amazing how well a hardware store or paint store can match colors with their computers today and I want to thank you for your tip. However, from a personal standpoint, I have always preferred MAG Engineering's Install-A-Lock Wrap around plate (which will work as well on steel doors as it will on wood) to be the quickest, easiest and most economical repair for a miscut door. On top of that, they are attractive.]

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**THE SIEVEKING AUTO
KEY GUIDE WINNER:
Jump Start**

On about five separate occasions we have worked on a Rover MGF Sports Car (1995-1997) where the keys have been locked in the boot. Trying to impression on this model has been unsuccessful. Although there is a boot release inside the vehicle, it is electronically operated and will not function unless the key is turned to the "ON" position.

What we have since found on this vehicle is if you remove the cowling from around the steering wheel and expose the rear of the ignition assembly, you can remove the screws that hold the electrical switch to the back of the ignition, and simply manipulate the electrical switch to the "ON" position. This effectively powers up the car's electrical system and will allow you to utilize the boot release switch inside the car.

Although this will not work on American cars and many Japanese models, we feel it is a viable means of opening the boot on European models such as Opal, Vauxhall, Carlton (which is also known as the Recorde) and other older models.

G. Watts
London



**JAKE'S GRAB BAG
PRIZES WINNERS:
Handy Plug Follower**

While disassembling a Schlage cylinder in the middle of the night, I found that I did not have my plug follower with me. What I wound up using was my MAG Silhouette flashlight which is almost 0.5000 in diameter.

Although you need to be careful when rotating the plug to remove it, the Silhouette makes an excellent plug follower. And, for those middle of the night jobs, it works very well as a lighted follower so you can see to load those top pins and springs if you drop them.

Terran Melconian
Massachusetts

Face Cap Replacement

If you have difficulty installing a face cap over a door lock with a spring loaded dust cover, try this:

Hold the lock face up in one hand, and hold the dust cover, plate and spring in place with the tip of your finger. Now, use a pencil, with the eraser end pointing away from you (hold it in your other hand) and pick up

a face cap so that it slides down the pencil (face down) to stop at your hand.

Next, put the eraser of the pencil against the dust cover, tip the pencil up and the face cap will slide down the pencil and into position. All that's left is holding the face cap in place until you can bend the tabs and you're done.

John Maser
Washington

Repairing Stripped Dogging Screws

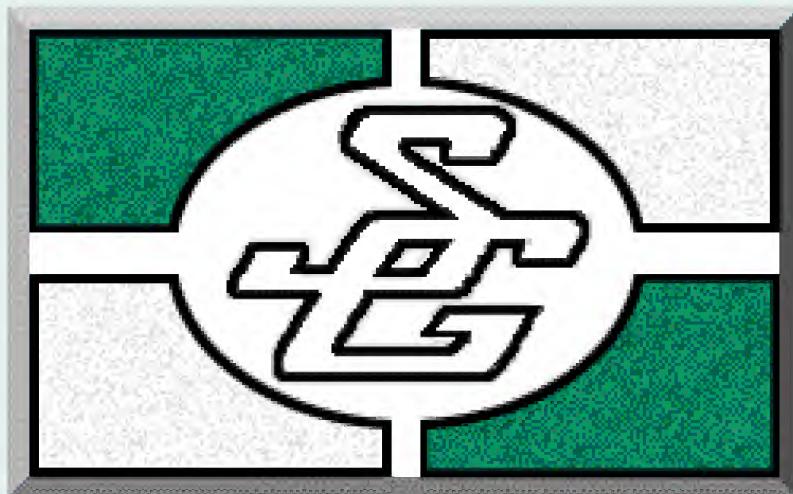
I've come across numerous stripped dogging screws on Door-O-Matic panic hardware. The problem is

caused by store owners using a regular hardened Allen wrench rather than a soft dogging key to dog these units open. By over tightening the screw, they strip the inside of the dogging screw.

An easy way to remove these stripped screws for repair is to use a T40 Torx driver with a socket end. This fits perfectly into a stripped screw and will enable you to use enough force to remove the damaged screw and replace it.

Joe Locke
E-Mail

TNL



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The WICKED Side

Whatever
Possessed Them?

"It's my heart," Joe said when he called his pastor that morning. "The doctor's sending me by ambulance to the hospital in San Antonio. No telling how long I'll be there. Can you go over to pick up my car and keep it until I get back?"

Joe had no family still living in Uvalde. Since he'd nursed a heart condition for years, he'd given a set of his keys to his pastor some time before, "just in case." Taking care of his car seemed a simple enough request.

Taking the keys from a box in which he kept them, the pastor called to his secretary in an adjacent office.

"Janey," he said, "I wonder if you'd mind getting Lois to drive you over to Doctor Dabney's office. I told Joe Morgan we'd bring his car back here and park it in our parking lot while he's in the hospital." He handed Janey the keys. "It's a dark blue Camaro."

Janey finished what she was doing and asked Lois to drive her over to the doctor's office. In a few minutes, they returned and went back to their work.

An hour or two later, the pastor came into Janey's office.

"Have you gone after Joe's car, yet?" he asked.

She said she had, and offered him the keys from the "out" basket on her desk.

"Where did you park it?" the pastor asked.

She said it was right out front.

The pastor walked to the front door and looked out.

"I don't see it," he said.

Janey walked to the door and pointed to a blue vehicle parked out front in the parking lot.

"That's not Joe's car," the pastor said. Puzzled, he asked if Joe's keys had operated the vehicle.

Janey admitted she hadn't tried the keys. The car doors had not been locked, and keys were in the ignition. Assuming that Joe had left his own keys in the switch, she had simply driven it back to the church, as

requested. It had never occurred to her that she might have the wrong vehicle.

Janey and Lois returned the mistaken car to Doctor Dabney's parking lot, found Joe's car, and drove it back to the church. No one was about when they made the switch, so the ladies assumed no one would be the wiser, regarding their error.

Wrong.

We all know where "assume" gets us!

Unknown to the ladies, during the car's absence, its owner had come out of Doctor Dabney's office and noticed his vehicle gone. After a quick search of the parking lot, he decided someone had stolen his car and promptly called the police to report the theft.

The police came to Doctor Dabney's office, looked around with the owner for the vehicle in question, found nothing, and they all went inside the doctor's office to fill out a stolen vehicle report. That was when the ladies returned, parked the missing vehicle in the exact parking spot where they had originally found it, took Joe's car, and vamoosed.

When the police were finished with the owner, they all walked outside. To their surprise, there sat the "stolen" vehicle, right where the man had originally parked it, keys dangling in the ignition.

The Information Superhighway has nothing on Small Town, U.S.A. gossip! Before you could say, "World-Wide Web," half the town knew what had happened and who-all was involved, much to the chagrin of the church secretaries. However, their embarrassment over the matter did not



by
Sara
Probasco

keep others from carrying the good-natured teasing a bit farther.

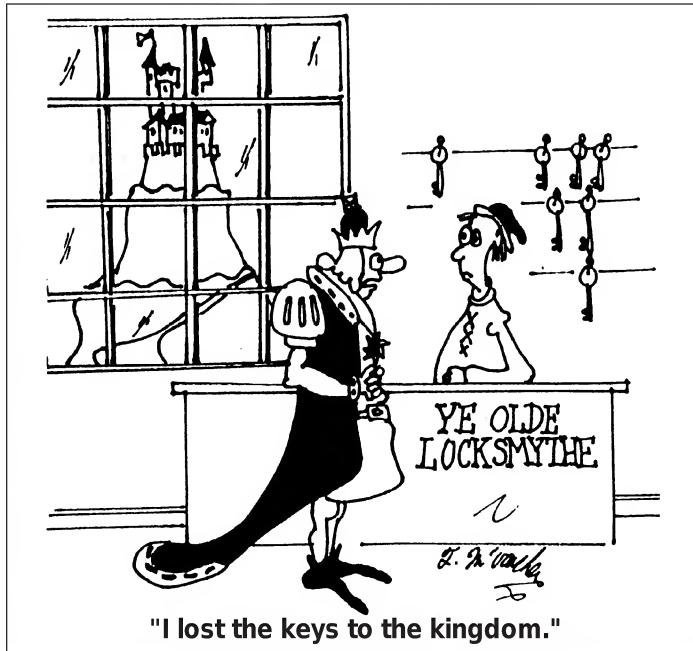
That evening, church members who came to prayer meeting and/or choir practice were greeted by a dozen Xeroxed "Wanted" posters taped to doorways and support columns throughout the building.

"WANTED FOR CAR THEFT" the heading stated. Below, were pictures of the two women involved, along with various details regarding the purloined vehicle, location, and so forth. There was even a "reward" offered for information leading to their conviction. No one ever admitted to posting these notices.

"Have you ever seen anyone blush like Lois did?" Don asked, as we chuckled over the situation later.

I shook my head. "I've never known anything to 'get off' with her the way that did. And Janey was so mortified, she could scarcely sing at choir practice."

"They were both lucky nothing came of it other than a few jibes," Don replied. "A lot of folks have lost their sense of humor, these days. Some people wouldn't have seen anything funny in this, especially if it had been their own car missing."



Don returned to reading his paper for a few minutes, then he laid it down again. A twinkle lit his eyes.

"What we really should do is offer Janey and Lois a job," he said.

"Doing what?" I asked.

"We might work out a deal with them and XYZ Rent-a-Car."

"You lost me," I said.

"Well, you know all the problems we had the other night, trying to help XYZ repossess that car, over at the motel? Our man made three service calls over there. Every time XYZ would get the vehicle spotted, before our guy could get there to get a key made, the driver would get antsy and move the car."

"I guess I'm dense," I admitted. "I don't get the connection."

"Instead of cutting keys by code or impressioning locks on these repo jobs, we could just send the church ladies out to make off with the vehicle in their slick-as-a-whistle fashion."

Don smiled, apparently pleased with himself over the idea.

"There's just one problem," I pointed out gently. "If you had leased a car and were worried about having it repossessed, would you park it in an open parking lot and leave the keys in the ignition, the way the man did at the doctor's office? That sort of thing seems to be the ladies' specialty."

Don's expression sobered. Then he brightened again. "We could always get an exorcist to help out."

I stared at him. "You really lost me, that time."

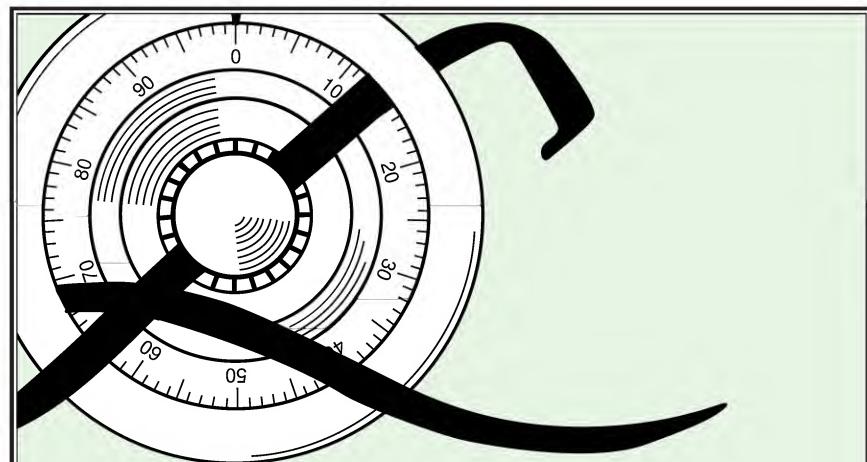
"You didn't hear about the man who was possessed by a demon? He went to an exorcist and asked him for help. The exorcist performed the appropriate rites, sent the demon packing, and then asked the man to make a donation to his church in return for the service rendered." Don was struggling to choke back a laugh. "The man refused...." Laughter was getting the best of him.

I handed him a tissue to wipe his eyes. Then I helped him out with the punch line.

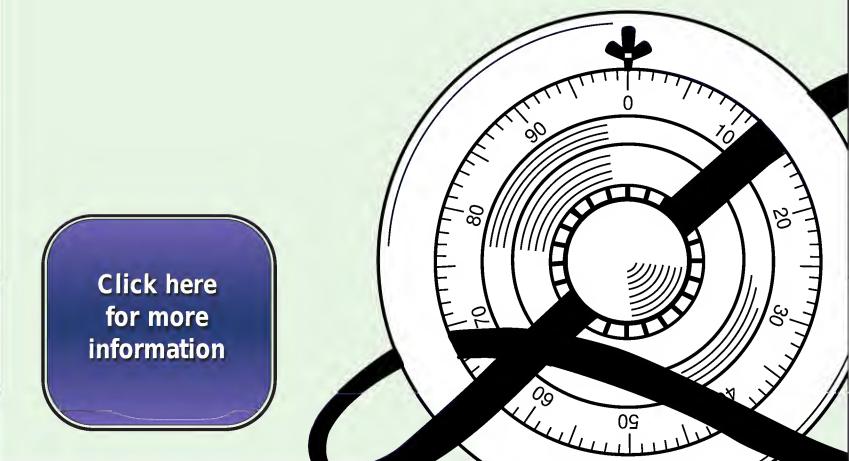
"...so the exorcist repossessed him."

Don suddenly sobered. "How'd you know?"

I smiled and kissed him on the cheek. "I was there." **TNL**



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We talked a little in the past about some differences in detention hardware versus commercial hardware. Now its time to get specific.

First and foremost, let's examine the term "equivalent." In the commercial world of security hardware, what you see is what you get, and the term is quite clearly "equal to," thanks to standardization among the various manufacturers. Locksmiths can count on functions, ADA specifications and UL requirements being the same in industrial hardware, whether the end product is Schlage, Corbin-Russwin, Sargent or other.

Even better, there are, for the most part, standard backsets. In the case of most industrial hardware products, 2-3/4" is the accepted norm. A Schlage equivalent can replace its Corbin or Sargent counterpart when necessary, easily and effectively, with no compromise in performance and no vast changes in door prep. When a locksmith, for whatever reason, is called to replace a removable core cylinder with another brand, this can be easily accomplished, just as one manufacturer of a given deadbolt can usually replace that of another with no loss of function or finish.

The same cannot be said in the prison industry. While manufacturers are seriously involved in setting standards on backset, function and performance, past construction

No Holds Barred:

The Small Deadbolt

by Joe Bucha, CML & Dee Bucha, CPL

history has left wide variances in thread size and pitch, backsets, functions and size of various locking mechanisms, as well as in their parts. Make it a cardinal rule that when you hear the term "equivalent" when referring to products between detention manufacturers, it literally means one lock is capable of doing what the other manufacturer's lock does, functionally speaking. Many equivalents are not "interchangeable" as we know substitutions in the commercial security hardware field.

Let's examine several clear examples. Thread pitch on locks and cylinders designed by Southern Steel and Adtec are the same, and therefore interchangeable. Folger Adam and RR Brink threads will also interchange between those two manufacturers. Folger Adam cylinders will not interchange as a replacement "equivalent" on Southern Steel or Adtec lock bodies, however. Once more, the word equivalent means functions are the same.

In this particular example, all cylinders are pin tumbler cylinders. They are not necessarily interchangeable due to threading pitch and any attempt to place an incorrect cylinder in an incorrect lock body will result in cross-

threading, utter frustration and extensive use of bad language. Keep this in mind when a customer requests Folger Adam cylinders for an Adtec lock.

In some cases, "equivalent" locks are quite unequivalent when you take measurements...and this is frequently one of the ways to identify which company produced a given lock is. As we move through the various products we'll find equivalents which are drastically different, but this month we're going to cover a lock which has only slight differences between manufacturers. Keep in mind that as we examine samenesses and differences, we'll also be learning a bit about each of the locks and when/ where they're used.

This issue we'll introduce the Folger Adam #10 lock and its equivalents. This mechanical deadlock measures 3" high, 4-1/4" wide and 1-1/4" thick. The bold projection is 1/2" and 1-1/4" as standards, which means you have a choice. The throw is 5/8 of an inch (see Photograph 1).

Let's take a little side trip here and examine a difference, that, as far as we know, is unique to the detention industry. Bolt measurements consist of two different specs. One is the bolt throw, which we're all familiar with. The other is the bolt projection. At first glance, these appear to be the same terms but yield conflicting measurements. Actually, they're two very different things.

The term "bolt projection" is a term which means "the length of the bolt which extends out from the body of the lock when the lock is in the unlocked position" ... or, stated another way, when the bolt is fully retracted. The bolt throw could be said to be how much further the bolt will travel when placed in a locked



1 The Folger Adam #10 deadlock. Note placement of locating pins near each of the mounting holes on the bolt end of the lock. Also, examine the "Adam" logo on the keyway. Southern Steel uses the same configuration on placement of locating pins.

Continued from page 92

condition. In the case of Folger Adam, there are two possible "standard" bolt projections on a #10 deadlock, 1/2" and 1-1/4".

The Adtec equivalent is numbered 4010 for the same lock design. The body, extension and throw of the 4010 is precisely the same as the Folger Adam #10.

Southern Steel identifies their equivalent as a 1010 series lock (see Photograph 2). Everything on this lock measures the same as the Folger Adam version, but their "standard" bolt extension is 1/2". Throws are the same.

A 7010 is the RR Brink version of the same lock (see Photograph 3). Once more the lock body is identical to the other manufacturer's, but like Southern Steel, the so-called "standard" bolt extension is 1/2", while the throw remains at the 5/8" mark. One tip for identification is that RR Brink manufactures a 6-lever tumbler locks as standard, but offers a 5-lever tumbler lock as an option. Normally an end user will prefer a 6-lever tumbler over a 5-lever tumbler due to added security. The other manufacturers use a 5-lever tumbler configuration as a standard, and a 6-lever tumbler lock as an additional option.

To fully compare, let's use a chart:

Manufacturer	Lock Body	Bolt Projection	Bolt Throw
Folger Adam	3"H X 4-1/4"W X 1-1/4"D	1/2" or 1-1/4"	5/8"
ADTEC	Same as above	1/2" or 1-1/4"	5/8"
Southern Steel	Same as above	1/2"	5/8"
RR Brink	Same as above	1/2"	5/8"

Yep, I hear your reaction, "It's all the same, Dee!" So how can you tell the difference between an RR Brink and a Southern Steel? A Folger Adam and an Adtec? One method, (not completely reliable) is to examine the key. Remember the logos you saw last issue? One of those logos should appear on your key. What creates a problem here, however, is that Adtec key blanks might be used to produce another manufacturer's key, particularly if the facility cuts keys on premise. You might also remember from the last article that occasionally a plastic coated "data sheet" is sometimes found on the lock body. (You should be so lucky, especially on twenty-year old locks!) If you have no

luck here, then it's time to really dig into the tiny details that can help isolate the most probable manufacturer.

One or two other items of interest before Joe jumps in here. These are paracentric (lever tumbler locks) as a standard. In every case, in examining the #10 and equivalent locks, longer bolt projections can be special ordered for an additional fee. RR Brink makes a variation of this lock called a 9010 with the same measurements, but is outfitted with a commercial mortise cylinder. At the same time, Southern Steel manufactures a variation which accepts a mogul cylinder, which is identified as 1010M (see Photograph 4).

These "small" deadbolts are used on pipe chases, wicket doors, fire and

electrical panels and other small swinging doors. You should be aware there are several choices of strikes, which are referred to as "keepers" in the detention industry. They can be single or double keyed simply by changing the key cylinder (keyway). Handing will have to be specified. (We'll talk about this another time...it's a whole different ball game.) Usually, you will also require a mounting plate to which the lock is initially mounted prior to installation, thus securing the lock itself against tampering.

Now, let's listen to Joe Pro about the real nitty-gritty on proper identification of this product.

Joe: It's one thing to check out lock specs in a book, but it's entirely different to look at these almost



2. Southern Steel identifies their equivalent as a 1010 series lock.



3. A 7010 is the RR Brink version of the same lock. The RR Brink 7010 series deadbolt shown here has a diagonal placement of locating pins. Adtec also uses this configuration. Note the small "A" on the keyway, which designates proper keyway.

identical locks in the field. Here's some of what I learned over the years when trying to determine whodunit, manufacturer-wise. Hopefully these tips will help out in the field.

The locks have locating pins, which are clearly visible on the lock cover plate. These small pins mount to the inside of the lock body, pass through the width of the lock and through the cover plate itself. These locating pins stabilize the cover and serve to provide minimum movement between the key cylinder (keyway) and the cover plate, when the key is being turned. (It takes very little to throw the key out of alignment and such misalignment will prevent the key from operating the lock.)

Folger Adam and Southern Steel have two locating pins next to the two front mounting bolts (see Photographs 1 & 2). Folger Adam will have the designation "Adam" written on it. All other manufacturers may use a letter on the key cylinder and this letter identifies the keyway. (Incidentally, when all else fails, use the key itself to identify a given lock. While this is not foolproof, it's still an option.)

This lock is also used in the large electro-mechanical locks and serves as a mechanical or emergency override system.

There is precious little that can go wrong with these locks, excluding sabotage by bored inmates. They are sturdy, reliable and usually hidden from view. Bizarre items can be stuffed into the keyways and this problem is often obscure to those who aren't trained locksmiths.

We'll close with some good news. In the fairly complicated world of detention locks, you'll be happy to know there are actually only two mechanical deadbolts: small and large.



4. Southern Steel manufactures a variation which accepts a mogul cylinder, which is identified as 1010M.

While there are a few variations in function, you'll find that small and large are easily and quickly separated when you're standing in a dim corridor with a guard protecting your back. The Folger Adam 10, Adtec 4010, Southern Steel 1010 and the Brink 7010, at roughly 4-1/2 pounds each, are the small ones! **TNL**



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Kettering, OH
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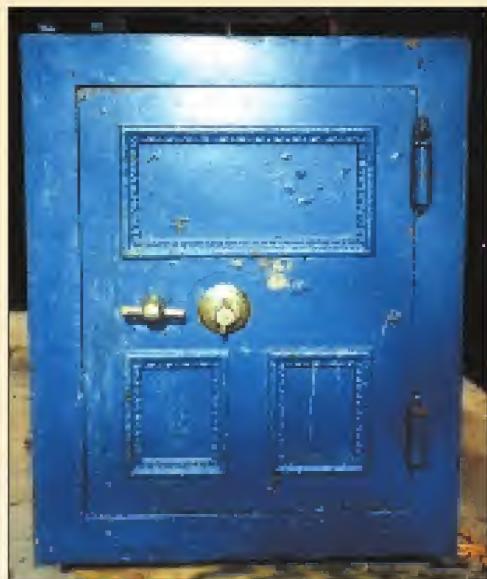
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Safe Restoration

Part 2

by Lynn A. Burman, CPL, CJ S



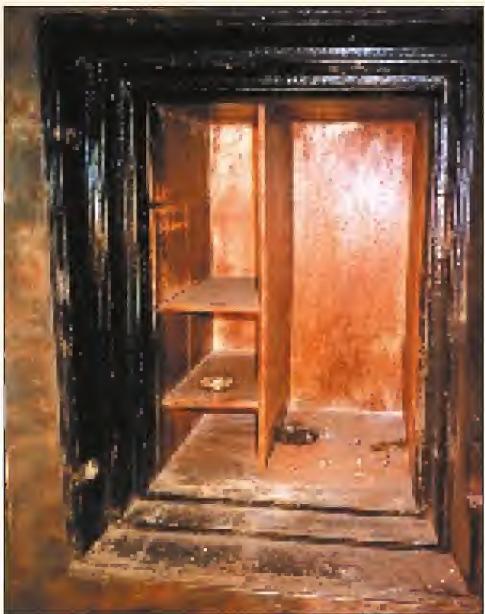
1. The first thing I want to do is to remove all of the trim.



3. I decided to chisel out an access hole so I have a straight shot at the shaft.



2. After removing the spline key, the dial unscrews allowing access to the dial ring.



4. On this safe the interior is pretty rugged, it's also missing the lock or bond box and a shelf.

Welcome to part 2 of safe restoration. The last time I opened this safe in preparation for restoration. This month I will begin the process of preparing the safe for the restoration. The first thing I want to do is to remove all of the trim that I am going to have replaced (see Photograph 1).

Let's first start with the dial. The first step is to make note of how the drive cam is splined to the spindle and at what number it is splined to the dial. This dial is splined so drop-in occurs at approximately zero. After removing the spline key, the dial unscrews allowing access to the dial ring mounting screws (see Photograph 2).

After removing the dial ring screws, I tapped the edge of the dial ring to break the grip of half a dozen coats of paint.

The next piece to get attention is the bolt control handle. To remove I first needed to find all of the screws that hold the back door cover plate in place. This required a little digging because when this safe was made all of the screws were covered with plaster prior to painting. This was done to give the appearance of a single piece rather than one that was held together with screws.

After digging out all the screws and removing the panel, I found that it didn't accomplish anything. This safe had the insulation poured after the door was completely assembled. This leaves me with three options.

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The first is to work through the combination access hole. Although this is possible, I have determined that the nut on the handle shaft is square and getting it off isn't a major problem, but getting it back on after the restoration is complete will be.

Option two is to chisel out all of the insulation from the door and repour the entire door after I am done. Although this can be done it's a major pain not to mention a big mess. What I decided to do is chisel out an access hole so I have a straight shot at the shaft and nut (see Photograph 3).



5. The interior is finished except for the carpet.



6. I mask off the interior using tape and paper.



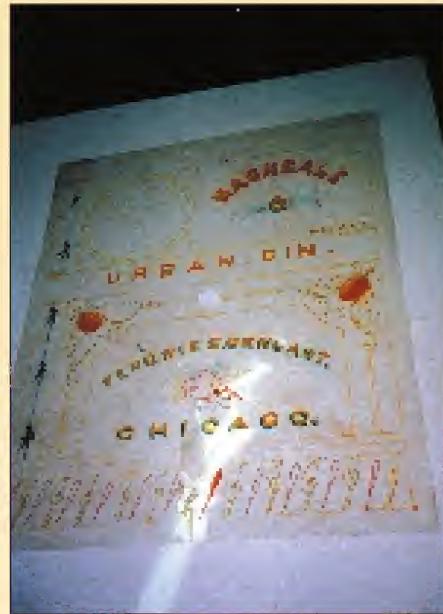
7. When you find the original paint scheme you need to take as many pictures as needed.

The last of the trim pieces that I needed to remove is the one remaining acorn on the top hinge (see Photograph 1). When I was moving the safe, I found a broken acorn from the bottom hinge behind the safe. Because it was broken that meant I also had a broken piece to remove from the lower hinge as well.

Most of the time these acorns are screwed in and are usually easy to remove. Extreme caution should be used when removing because sometimes these decorative pieces are hollow. If you are not aware of this you can crush them in the removal process.

When trying to remove this acorn, I determined that it wasn't hollow, but it wouldn't unscrew by hand either. I wrapped it with a piece of leather and used pliers to remove. After getting it out I found that it was not threaded but had been pressed in.

To remove the broken piece from the lower hinge I removed the door and drove it out with a punch,



8. On more elaborate designs trace the design on an acetate sheet with colored markers.

thankful that I didn't have to use an easy out (which it never is) to remove it from the hinge.

At this point I already have the door off and am going to do whatever is needed to the interior of the safe next. The interior of this safe is pretty rugged, it's also missing the lock or



9. The first striping of the paint.



bond box and a shelf (see Photograph 4). None of the ones I had would fit so I am going to refinish the interior as is.

I elected not to replace the shelf or bond box in this unit as this safe isn't for a specific customer, but if I was now would be the time to make the new shelf. If the interior is Oak, Maple, Birch or whatever, be sure to match it and then stain to match the color and varnish or lacquer to a high gloss. Be sure to follow the manufacturer's directions when using any paint or varnish and use rubber gloves and goggles.

Most of the safes of this type have a carpeted floor with a flowered pattern. The best place to find a replacement is at your local upholstery shop.

The first thing I am going to do to the interior is sand the nicks and abrasions in the wood interior with 80 grit sand paper. When everything is smooth I then switch to 120 grit, then 180, 240. After I have it as smooth as I want, I vacuum the entire interior and then wipe it down with a tack rag. This is a piece of rosin impregnated cheese cloth that will remove every last spec of dust prior to applying the finish.

Tack rags can be purchased at your local auto parts store. Do not over use

a tack rag. In other words, use a fresh side for each stroke.

Once the interior is finished except for the carpet (see Photograph 5) I mask it off using tape and paper (see Photograph 6). I can now begin to remove the finish on the body and door of the safe. How much you want to remove is up to you. On some safes you may get away with only sanding it smooth and then refinishing.

I prefer to totally remove all the finish. I find that it doesn't take any longer to do and as an added benefit I don't have to worry about the paint

lifting. There are three common methods for removing the paint. The three methods to remove the paint are to sandblast, strip or sand, none of which are clean. On this safe I chose to strip the safe as far as possible and then hand sand anything that is left smooth.

Before starting I used some denatured alcohol and a Scotch Brite pad to remove some of the top coats of paint to try and find the original paint design (see Photograph 7).

Whichever method you use take precautions and use safety gear. If



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using chemicals follow the manufacturers directions. When sanding or using a wire brush wear a particle mask. The original paint contains lead and you don't want to breath any of the dust.

When you find the original paint scheme you need to take as many pictures as needed to reproduce it. On more elaborate designs trace the design on an acetate sheet with colored markers (see Photograph 8). The acetate sheet and fine line colored markers can be purchased at an art supply house.

Photograph 9, shows the first striping of the paint. Once all the finish is removed from the door and body of the safe, I plug the holes in the door with ball bearings and weld them in place then grind them smooth (see Photograph 10). One of the best purchases I have made for working on safes was to buy a 110 volt wire feed welder. This allows me to finish most jobs on site. The welder in Photograph 11, is capable of 100 amps and I have repaired TL-30's and GSA safes with it.

Now is the time to have the missing acorns made if you want and send the dial, ring, and handle to the



10. I plug the holes in the door with ball bearings and weld them in place then grind them smooth.



11. The welder is capable of 100 amps.

plat. The handle on this unit was worn so badly on one side that I had to build it up and then file it to match the other side.

When dealing with the plat. it's kind of like placing a super special order with a lock manufacturer. If they say 4-6 weeks to do the job, plan on at least 8-12 weeks before you call them and ask why you haven't received your parts yet?

Next time we will fill, prime and paint.

TNL



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Reed Report

I am happy to report that the ALOA convention this past July in Reno, NV was very successful as far as I am concerned. Compared to last year it was like day and night. All we have to do now is keep the ball rolling. That will take all of us, working together, to get the job done. Too often I think we sit back and say, "Well, we have elected new officers now, so I won't have to do anything." There could be nothing farther from the truth than that.

In the past I have always been involved with the media, so therefore, I could only be an "associate" member of ALOA. Well I am now an "active" member, and I feel if that is what you are, then that is what you should be ...ACTIVE. I urge EVERY member of ALOA to take that same stance, and every locksmith that is NOT a member of ALOA to become one. Come on now!

I'm not just trying to save ALOA. I'm trying to save an entire industry. I just wish I could. I can't! However, WE can. It will take all of us pulling together, supporting the officers and directors, to pull it off. I've been around for many years and haven't asked too many favors, but I am now. Join and support ALOA. Together we have accomplished many things in the past, and we can do it again. I feel we need 3000 new members. I think I have 3000 locksmiths out there that realize I have never done anything, but try to help this industry. Now I'm asking for you to join me one more time for a GREAT cause.

If you are already a member I'm sure you know someone who is not. Get them to join! To change a famous statement, I would like to say, "Ask not what your industry can do for you, but ask what you can do for your industry." So, one more time. JOIN ALOA, PLEASE! Remember, in numbers comes power, and we need all the power we can muster up. Thank you!!

Q. Just received an Evinrude/Johnson boat lock. Code PK18. I do not have this in any of my code books. It is a double sided key with the center offset to one side. I need the blank number and code information.

A. PK18 = 1513, Blank OM 10, Spacing: shoulder to center of first cut =.140. Cut to cut =.020

Scatter Shooting while wondering whatever happened to . . . Dave Creedon

Q. I have a customer who lost his keys to his '39 Plymouth. What blank does it take? Apparently the door and ignition are the same. I planned on impressioning it. Any ideas?

A. The glove box and trunk lock blank is a Y20. The ignition is a Y21. This lock impressions VERY easily. If the door lock is stuck and won't come out, just drop the ignition cable by removing one screw and then drive in the trip pin to remove the lock.

Q. I am looking for an ignition key blank for an old right hand drive postal vehicle. Code is AM 211D, small and double sided.

A. No code, but it impressions easily. Spacing: from shoulder to center of first cut =.125; Cut to cut =.097; 5 depths start at .250 with .020 drop. Blank = Ilco 1524

Q. How do you decode a Sesamee padlock?

A. You can open them with a shim and decode it through the change key hole. ESP makes a decoder, but it might be easier to use shim.

Q. How do you duplicate and originate a key for Ford PATS?

A. To duplicate turn existing key to ON and wait for the security light to go out. Then turn to OFF and within 15 seconds turn new key to on. The security light turns on then off. If it flashes, try again. **TNL**



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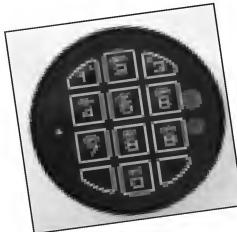
Oct. 4 Akron, OH

Oct. 18 Minneapolis, MN

Oct. 25 Indianapolis, IN

BUSINESS BRIEFS

Winfield Carries SAFELOCK



Winfield announced at the 1997 Associated Locksmith's of America Convention, they will represent and sell the LaGard product —SAFELOCK. SAFELOCK is a new technology product specifically designed to upgrade existing security containers from mechanical to electronic access control. SAFELOCK is an electronic combination lock designed to directly replace mechanical combination locks. It is a battery operated and offered with a springbolt or a deadbolt option.

Richardson Electronics Appoints Vice President Marketing



Richardson Electronics Security Systems Division announced that Ms. Christine Vaz has been promoted to Vice-President of Marketing.

Ms. Vaz joined Richardson in November of 1994 as Director of Marketing and has played a key role in the company's aggressive expansion plan. Sales nearly doubled in fiscal 1996, and the division is currently on target to increase sales again by 35% in fiscal 1997.

NKL to Merge With Allied Gary

NKL Industries, Ltd., a manufacturer of safes and security equipment located in Chesapeake, VA announced today its plan to merge with Allied Gary International, of Waynesboro, GA.

The new company will operate two manufacturing

facilities and consists of more than 170 employees nationwide. With 125,000 square feet of combined manufacturing space, the company will produce over 10,000 premium commercial safes per year.

For additional information, please contact Mr. Ray Lorenzo at (800) 528-9900, or Mr. Larry Robinson at (800) 456-4279.

Schwab Corp. Celebrates 125 Years of Business.

Schwab Corp. is pleased to announce 1997 as their 125th anniversary. Since its beginnings in 1872, Schwab Corp. has taken pride in adapting to the changing needs of Lafayette and the world. During its history, a variety of products have been produced, including horse drawn carriages, stoplight bases and sewer grates, many of which are still in use in Lafayette. Currently, Schwab is a leading manufacturer of fire-protective safes, cabinets, and files for both business and home.

For more information contact Schwab Corp. Customer Service at (800) 428-7678.

Yankee Security Convention

The Yankee Security Convention will return to the Rhode Island Convention Center in Providence, RI in the Fall of 1997 for the 19th annual show Nov. 8-9.

For more information about parti-



cipating in or attending the 1997 Yankee Security Convention, call 1-800-209-8266.

New Products From Jet

Chrysler Corporation has issued a license to Jet Hardware of Brooklyn, NY to manufacture original Chrysler key blanks. Jet is the first major after market key blank firm to be granted the license. The initial offering consists of brass, coined and embossed with the Chrysler logo and finished in a very lustrous nickel plating. The line includes the plastic head versions of original Chrysler keys.

The new Chrysler original key blanks along with Jet's Ford Motor Company's licensed original keys are now available from Jet's fine family of distributors throughout the United States and Canada.

For further information, contact: Jet Hardware Mfg. Corp., 800 Hinsdale St., Brooklyn, NY 11207.

KXL and Hoyl Mergers

KXL and Hoyl Lock have merged. These two small companies will manufacture more than 100 types of cam locks, padlocks and special purpose locks at their new address:

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2507 - 172nd. Avenue
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Tel: 319/ 382-2912

PDQ Introduces The SA Series

PDQ Manufacturing, announced the introduction of the company's newest addition to its Made in America SPIRIT Series locks, the standard duty Grade 2 SA Series key-in lever lock.

The SA Series key-in lever lock is manufactured using the same superior design concepts as those used in the company's ST and SP SPIRIT Series:

*Heavy duty cast rose plate and lever spindles

*Built in lever stops, independent of chassis

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*Standard through the door thru-bolting

*Rose diameter compatible with industry standards. Will cover all existing cylindrical preps, including universal preps now offered.



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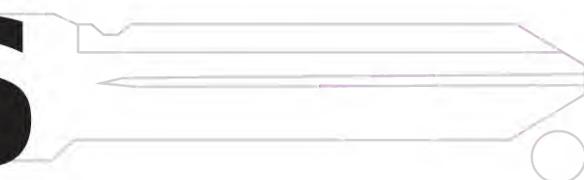
MBA has recently signed a deal with Mauer GmbH to distribute several of their fine products in North America. Mauer, a German manufacturing company, has been making security hardware since 1864. The products that MBA has selected for distribution are especially well suited to the needs of locksmiths and OEMs in the U.S. and Canada.

For more information please contact MBA at: 1-888-MBA-5495 for more information on Mauer safe locks. **TNL**



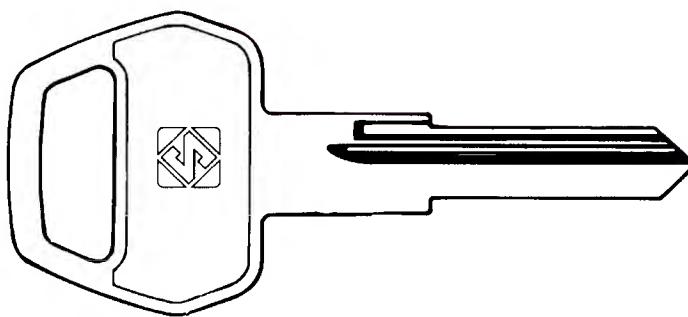
KEY CODES

Volvo DF2001-4000



HPC 1200 Code Card:
CF52, PF52, XF52
Codemax No.: 152
Cutter: CW-1011

Key Blanks:
 Silca - HU52
 Ilco - X52
 Curtis - SB11
 Jet - SAA1-NP



**Key
Profile**

Spacing:

1 - .100	6 - .595	1 - .320
2 - .199	7 - .694	2 - .294
3 - .298	8 - .793	3 - .268
4 - .397	9 - .892	4 - .242
5 - .496	10 - .991	

Depths:

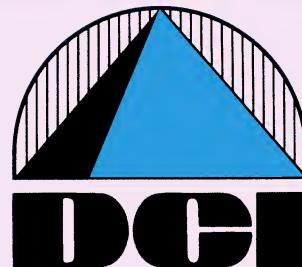
**Note: Key blank is double sided.
Same cuts on both sides.**

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02 334311311	36 133443123	70 313312322	03 311213212	37 321122331	70 311313242
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04 333444212	38 133231122	72 313124321	05 134344324	39 313342112	72 311223433
05 312344322	39 323421234	73 334222343	06 324322244	40 334442121	73 331112221
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The Locksmith Advantage

A different perspective on electronic access control.

by Merrill Hoffman

1. The main entrance was a wooden door with a double cylinder Adams Rite MS series deadlock.



2. Push-button switches were installed in the Weiser hole covers to activate the knobblock.

Somewhat more than 10 years ago, a fast talking, out-of-town alarm company convinced a local manufacturer that they needed a proximity card reader entry system to protect their assets. After installing readers on 11 doors at a cost of just over \$44,000.00, they informed the owners that for about \$50.00 a door a locksmith could supply and install electric strikes and they would be operational.

Their work was beautiful. All the readers were hidden in the walls and the control center was impressive. When a card was passed near a reader, 24 volts DC was supplied to the pair of wires they had thoughtfully pulled to the strike areas of all the door frames. Sounds good doesn't it? The work of the locksmith should be easy, right? Wrong.

The main entrance was a wooden door with a double cylinder Adams Rite MS series deadlock (see

Photograph 1). This lock has a flip-up deadbolt that extends nearly an inch and a half. All the other doors had Schlage interconnected H110 knobblocks. This function locks only the one inch throw deadbolt. Both inside and outside knobs operate the spring latch and the inside knob also retracts the deadbolt for immediate exit.

Even if we could have used an electric strike with the bolt, every time someone exited, the bolt would retract and the lock would have to be relocked from the outside with a key. This would most likely have resulted in doors being left unlocked and was not acceptable.

Our first move was to set up a conference with the owner, architect, and alarm company to inform them that the cost would be eight to ten times greater than they had been quoted for electric strikes and would involve scraping brand new locks.

Even at that cost, our salvage operation would be a cost compromise and not what would have been our first choice of hardware.

This scenario, although usually less costly, has been repeated scores of times since then. It would be easy to consider architects as the natural enemy of locksmiths, but they would not be alone. Included in this group should be all those involved in planning and constructing a new building — and then calling a locksmith only after they need a rescue.

Electronic access control systems will be an increasing part of the future of locksmiths if they are not to go the way of the dinosaurs. These systems are wonderful. It can recognize each user as an individual, determine if he or she is



3. We mortised the MS lock deeper into the door until the bolt extended only one inch and could be released by an SDC 16A electric strike.

allowed entrance at that time of day on that day of the week and keep a record of each attempted use. It can be touch pad, card reader, retina scanner, combinations of the preceding and many other variations. But, think about this, after all their deductive processing, when it comes down to what really locks or unlocks the door, they are nothing more than a fancy and expensive on-off switch.

An elephant is a very large animal and although I have never tried, I understand that the best way to eat one would be a bite at a time. An electronic access system can also appear formidable, but when reduced to manageable "bites" it is not nearly as frightening.

A basic system is comprised of: some type of a physical locking system at the door that can be released electrically; a power supply; a central processing unit (brain) that makes decisions; an input device (keypad, card reader, etc.) to communicate with the central processing unit; and wiring to connect all of the above. A critical choice, and often what determines if the project is feasible from the standpoint of cost, is the physical locking device at the door.

This is what I call the "Locksmiths Advantage." Who could possibly know more about installing door hardware than an experienced locksmith? For many years our company has installed complete electronic access control systems. We also are sub-contracted by alarm companies who wish to integrate lock control with their alarm systems and access control companies which do not install locks. This has led me to the theory of simplification by isolating the components.

The first step, and probably the most important, is to determine what the customer needs and expects the installation to do. If you can't pry this information out of your customer, and it can be harder than you might imagine, you are headed for grief. A perfectly installed and functioning "wrong" system is a nightmare you don't need. The next logical step in planning any installation — small or large — is with the locking device at the door. It could be an electric

strike, an electric lock, an electrically controlled panic exit device, or an electromagnet lock. This is our "Locksmith Advantage." We should be experts on fitting mechanical devices to doors (even if they have little wires coming out of them) and we should know building safety codes.

The choice of locking devices will be determined by many things, primarily types of doors, walls and frames. Some doors are fire doors and require UL rated strikes. If the doors are to be unlocked for long periods of time, probably electric locks should be used in place of electric strikes. Magnet locks solve a lot of problems but are, in effect, double cylinder locks. How will you safely let people out to the satisfaction of the Fire Marshall? All of these factors determine the best device for a particular door — and as locksmiths we should have the best answers.

Next is the power supply. It could be a simple plug in transformer, a battery backed-up DC power supply with individually fused outputs or somewhere in between. A good location for the box and an outlet for 110 volts AC must be found. Power requirements have to be figured. What voltage, AC or DC, and how much current will be required. If the central processing unit is separate, it is a good idea to locate it near the power supply. This makes a nice control center and facilitates wiring and future trouble shooting.

The location of the input devices is important. Their maximum height may be dictated by ADA regulations and you certainly want them to be convenient for the users.

Wiring the components together may seem like a "foreign trade" to the locksmith. Don't worry. Small systems are really not very difficult and if it seems too complex — get help. If we have to do concrete coring in large buildings or long complicated wire runs we just subcontract the work to an experienced electrician who has the tools and experience to pull the wires for us.

This was not intended to be a "How To" article. More like a "Why Not." The big box hardware stores and home improvement centers are taking more and more of the

traditional locksmith business. If locksmiths are to survive, it makes sense to use already developed skills in new areas. Areas in which the do-it-yourselfer is less able to compete.

To solve the problem with the manufacturer who had the wrong locks and the wrong quote, our answer follows.

The Schlage "H" locks were removed and replaced with Schlage electrified knoblock. The cross-bore deadlock holes above the new Schlage "D" locks were covered by Weiser 7059 trim covers. Alarm Lock 261 power transfer units were installed in the old deadbolt cutouts in the door and door frame and used to get power from the door frame to the door and down a couple inches to the lock.

About the time this was completed, we learned that the owners decided to program the locks to be unlocked during business hours. This caused the knobs to be very warm all day long. We solved this by installing Eagle Signal Control model 90 pneumatic variable delay (normally open, momentary contact), push-button switches in the Weiser hole covers (see Photograph 2).

For eight hours a day power went to the input of the switch — it was only delivered to the lock solenoid after the button was pushed and then for the number of seconds set on the pneumatic delay switch. Retro-fit levers were added later for ADA compliance.

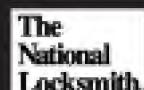
On the main entrance we had to deal with the Adams Rite MS deadlock. This was installed before our involvement on the job because the owner wanted a double cylinder deadlock. At that time in California there had to be an indicator which displayed "Locked" or "Unlocked" to comply with building codes and the Adams Rite lock had this feature. We mortised the lock deeper into the door (trim plates were used to cover the move) until the bolt extended only one inch and could be released by an SDC 16A electric strike (see Photograph 3). This was not a job we were real proud of, but it has been operational for a long time. **TNL**

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PRODUCT:

The newest security device added to the growing Sesamee line is the SESAMEE Gun Blok. Due to the high demand for fire-arm safety, Sesamee has entered the market with a lock of its own. This is a three wheeled trigger guard that offers 1000 combinations to select from. The Gun Blok fits most Rifles, Shotguns, and Pistols. The combination is easily changed by the customer. All Gun Blok's are shipped from the factory with the 0-0-0 combination.

CONSTRUCTION:

The Gun Blok is made of rubber and steel. The steel stud is serrated and fits into a strong spring ratchet that is self adjusting. When the combination is dialed, a button can be pushed to release the steel stud from the ratcheting locking mechanism. The metal parts of the Gun Blok are covered with protective rubber pads.

The purpose of the Gun Blok is to guard against unauthorized use of locked up firearm. There is a warning on the mechanism itself stating that "The Gun Blok should NOT be used on Loaded Weapons." I tried to fire the gun (pull the trigger) with the Trigger Guard installed, but I was unable to get the loaded 45 to fire. Leaving the handgun unloaded, however, would be the smartest thing to do. There is a lifetime guarantee on this unit.

Sesamee Gun Blok

COMMENTS:

The Gun Blok is well made, compact, and gets the job done. There is a auto "O" stop on the wheeled mechanism. This allows fast and easy opening of the Blok, even in the dark. The changing type mechanism is similar to changing locks on a briefcase or suitcase.

Step 1: To set your own combination, leave the dial at 0-0-0, the factory set combination, depress the unlocking button and separate the two halves.

Step 2: Pull up the protective rubber pads on the dial approximately 1/4 inch and rotate 90 degrees, then move the steel lever over and up to the reset position.

Step 3: Now turn the dials to the new desired combination and then return the steel lever to the original position and replace the protective pads.

Step 4: Scramble the dials and mount the unit on your gun or rifle. Your Gun Blok will now open to the



newly set combination. To change it again, just repeat the above procedure.

Step 5: After opening the Gun Blok, scramble the dials so when you reinstall the unit, it will be locked.

CONCLUSION:

The Gun Blok is a simple, yet effective device that comes packaged in a attractive plastic package. This can be a regularly stocked item, and placed near your register for impulse sales. Anyone who has a gun, or the husband or wife of a gun owner will like to pick up this alluring and fascinating article.

The Gun Block also comes with a Lifetime Warranty. If it fails to perform due to manufacturing defect, CCL Security Products will replace it for free. Simply return it to CCL Security Products. A receipt is required for a replacement.

The suggested dealer price for the Gun Blok is \$13.99. For more information on the Sesamee Gun Blok call: 1-800-733-8588. **TNL**

IN SUMMARY:

DESCRIPTION: Gun Blok is a three wheeled trigger guard that offers 1000 combinations to select from.

COMMENTS: The Gun Blok is well made, compact, and gets the job done.

PRICE: \$13.99

TEST DRIVE RESULTS: The Gun Blok is a simple, yet effective device.